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Original Articles.

THE SUBCUTANEOUS INJECTION OF PARAFFIN FOR THE CORRECTION OF DEFORMITIES OF THE NOSE.*

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The surgical use of paraffin as a prosthetic measure is a recent advancement in the surgical art and consequently is in a more or less experimental stage of development. The first instance in which it was used in an attempt to remedy a defect in the human anatomy dates back but a few years, and while the number of cases in the literature is increasing rapidly, they are still so few in number that every operation of this character should be reported. It is only by a careful classification and study of a large number of cases that we may be enabled to arrive at a definite conclusion as to the merits and demerits of the method, as a recognized surgical procedure.

The attempts at improvement which terminate unsatisfactorily are of even more import than are the cases which result favorably. The temptation is to report the successful operations and to postpone indefinitely a report of those cases which had an unfavorable outcome, in this way giving to the one searching for a verdict on the method, a biased conception as to the results one may reasonably anticipate.

The satisfactory results are sufficient evidence in themselves. The failures demand further attention and investigation both from the operator and the profession at large, in an attempt to discover the cause of the fault, and to place it at the door of the method, or of the one who employs the method.

The report of disastrous results should not be confined to the lay press but should appear at length in the medical press, and in this way tend toward the prevention of a repetition of the failure. Not long ago the daily papers, through a press dispatch from Paris, called attention to the case of a young girl who, not satisfied with the appearance of her nose, submitted to an operation in which paraffin was injected subcutaneously to replace a defect, as a result necrosis ensued and the loss of the entire nasal organ was threatened.

Cases such as this demand the most careful scrutiny on the part of the profession before an attempt at a decision as to the value of the new method can be made, and these cases should be brought to the attention of the profession by the one who had the case in charge.

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THE ORIGIN OF THE METHOD.

The subcutaneous injection of oils and liquid paraffin dates back almost to the origin of the hypodermic needle and syringe; especially has it been used in the treatment of syphilis, as a vehicle for the suspension of insoluble medicaments. Corning in 1891 presented an article entitled, "Localization of Remedies About the Sensory Nerves of the Skin," in which we find the first use of a solidifying oil in surgery. As the title implies, the object of this method was to fix medicament, usually an analgesic, in a particular neighborhood by the injection of the oil immediately after, and through the same needle, and then by a cold application, or the refrigerant spray, the oil was solidified, and the absorption or dissemination of the drug prevented.

In 1894 Corning enlarged the application of this subcutaneous injection of paraffin, by its injection into a muscle for the arrest of spasm. This was accomplished with a satisfactory result and the name "Eleomyenchysis" applied to the procedure. The same investigator, in 1896, utilized this substance in still another manner. After the subcutaneous division of a nerve for neuralgia, paraffin was inserted between the two divided ends, and then solidified by the external application of cold. Regeneration of the nerve ends and the return of pain were in this manner prevented.

The *Medical Record,* in an editorial on this phase of the subject, concludes as follows: "It is clear that the credit for the idea of the mechanical employment of oils in the tissues belongs wholly to Dr. Corning. And not only is he entitled to the honor of originating the principle, but also to credit for developing a method far more scientific than that of any of his followers."

From a survey of the available literature it would seem positively proven that, as quoted above, the principle of the subcutaneous injection of paraffin was first utilized by Corning, but also that Gersuny in his article of 1900 entitled, "Ueber eine Subcutane Prosthese," was undoubtedly the first to recommend the use of, and to use, paraffin, subcutaneously, as a prosthetic measure.

The fact that paraffin or vaselin can be sterilized, made to melt at a given temperature, and when injected under the skin, will give rise to no untoward symptoms, no toxic absorption, no marked inflammatory reaction, and no pain or discomfort, but instead serve as a non-irritating framework which acts as a support of newly formed connective tissue—these facts form the basis, the foundation of all that has been done with paraffin as a prosthetic substance during the past few years, and it would seem that this was first brought out by Corning of New York, and then re-emphasized and enlarged by Gersuny of Vienna, so much so that the procedure is commonly known as "Gersuny's Method."

The writings of Gersuny and his assistants have led surgeons throughout the land to utilize this substance

in efforts to repair, or improve on, defects in the human anatomy. These defects have been of a great variety and include almost every possible sort of deficiency, defect or blemish which human flesh and bone is heir to. The first instance in which it was used in the human body was for the formation of artificial testicles in a person who had been castrated for tuberculosis of those organs. This was successfully accomplished by Gersuny in 1899, and at the last report, after the elapse of over three years, the artificial testicles were in perfect condition, and, to the palpating fingers, felt like cartilaginous masses. This, notwithstanding the fact that the patient had passed through a severe attack of typhoid fever, his temperature rising to 40 C. (104 F.). At the time of this high temperature, the masses of paraffin within the scrotum were noted as becoming a little softer, but after the decline of the temperature, they returned to their former consistency.

FIELD OF EMPLOYMENT.

Among the other conditions in which this method has been employed might be mentioned inguinal and umbilical hernia, incontinence of urine, incontinence of feces, prolapse of rectum, prolapsus ani of children, prolapse of uterus, displacement of uterus, cleft palate, partial and complete, prevention of post-operative adhesions, obliteration of scars resulting from accident, obliteration of scars resulting from mastoid or frontal sinus operation, obliteration of scars resulting from confluent smallpox, to restore the symmetry of the face in facial hemiatrophy, to restore the symmetry of the face after the removal of maxillæ, as a foundation for an artificial eye, to repair the defect after resection of the ribs, to prevent ankylosis of joints after resection, to prevent regeneration of nerves after resection and the formation of artificial turbinated bones.

The above are among the more usual indications for the employment of this method; while the most frequent defects for which the subcutaneous injection of paraffin has been resorted to, if one may judge from the literature, are deformities of the nose.

It would also seem, from the literature, that in but one deformity of the nose has repair been attempted by this procedure. That is the "saddle-back" nose. This may be, and in all probability is because it is by far the most common deformity of the nose, in which there exists a defect which may be filled in. Of course in that variety of malformation in which there is an increase of tissue, this method will, as a general proposition, be contraindicated.

CLASSIFICATION OF NASAL DEFORMITIES.

Roe has classified nasal deformities as follows:

Deformities of the nose	Bony portion	Vertical	Convex. / Concave.
		Lateral	Spatulated. / Deflected.
	Cartilaginous portion.	Tip	Excessive or deficient tissue / Deviation from median line.
		Wings	Collapsed. / Expanded.

From this classification, it will be seen that in a fair proportion of the various deformities it is both practical and possible to remedy the defect by the subcutaneous injection of paraffin; and not only remedy the defect, but in addition, do so in a manner much better and more rapidly, and with considerable less inconvenience, to both operator and patient, than by means of any other known method at our disposal for the remedy or improvement of such condition.

The most satisfactory results, the extreme simplicity of the procedure, and the rapidity with which the irregularity is corrected are all more pronounced when compared or contrasted with the more unsatisfactory, complicated, and time-consuming (both to the patient and the operator) methods previously advocated, such as the so-called plastic operations, and in the methods which include the insertion of a foreign substance such as metal, celluloid, or ivory plates or strips.

Of those deformities included in Roe's classifications, the concave vertical or the saddle-back nose is beyond all doubt the condition *par excellence* for the employment of this procedure.

Among the other deformities of the bony portion of the nose, this line of treatment is not at all constantly indicated, but cases might arise in which the spatulated or deflected lateral variety of nasal deformity could be made less noticeable, by the use of this foreign body inserted subcutaneously. In the convex vertical, where there is a redundancy of tissue, there seems to be practically no indication for its use.

As to the cartilaginous portion, when the tip is deficient in size, this method will be again found to be available in improving the appearance of the organ. When of excessive size, and when deviated from the median line, there is little, if anything, to be gained by using the method under discussion. When the wings are collapsed we have found the method satisfactory in causing the alæ to resume their relatively normal position and appearance. And with the wings expanded, it is again found to be of no practical value. This review of the possibilities of the procedure will show a very wide field for its usefulness, and serve as a satisfactory excuse for its serious consideration.

INDICATIONS.

On account of the character of the work involved, the method must be proven to be absolutely harmless, devoid of any possible danger when properly applied, before it should or can become a recognized surgical procedure. The operations in which this method will be employed are not, as a rule, matters of necessity, and when performed, in an attempt to remedy a slight defect in a person's countenance, a defect often exaggerated in the mind of the patient applying for improvement, one must be reasonably, if not absolutely, certain that this defect will not be, by any chance, made worse than it was originally. Very frequently the irregularity of the face is such that, to an uninterested person, it would seem that the deformity had better be left alone.

The fact that a patient comes to you to have his or her appearance improved on, is certain evidence, or at least satisfactory evidence, in the vast majority of instances, that he or she is hypersensitive about the matter, and is more than likely to be dissatisfied with the result of your attempted improvement, even though it be satisfactory from a surgical view point. Such cases differ and should be differentiated from those in which the nature of the defect demands that some measure, operative or otherwise, be taken in order to prevent that person from becoming an object of either pity or ridicule throughout the remainder of his days, if no attempt at improvement is undertaken. In such cases it is always justifiable to make an attempt at improvement of the existing conditions. In another class of cases, those in which the deformity is comparatively trifling, in many instances it is not indicated nor justifiable to operate on them.

THE DIFFICULTIES.

The possible causes of failure, in the latter class of cases especially, should always be most fully and care-

fully presented to the patient, and then it is for him to decide whether or not to undertake the risks, as there is always a risk associated with the performance of an operation of this character.

These possible sources of failure, and therefore objections to the method, many of them chimerical, some theoretical, and others real and existing, may be enumerated as follows:

1. Toxic absorption.
2. Marked inflammatory reaction.
3. Loss of tissue, due to infection and abscess formation.
4. Pressure necrosis, caused by the injection of too much paraffin.
5. Sloughing of tissue, as a result of the heat of the paraffin.
6. Injection into very dense, or inelastic structures, or where scar tissue is firmly attached to the underlying and adjacent parts.
7. Injection of too small an amount of paraffin, with an insufficient correction of the deformity.
8. Injection of too large an amount of paraffin, with an overcorrection of the original deformity.
9. Air embolism.
10. Paraffin embolism.
11. Extension of the paraffin, when first introduced, into adjacent normal structures, such as the infraorbital region.
12. Interference with the muscular action of the nose.
13. Escape of the liquid paraffin, after the withdrawal of the needle.
14. Solidification of the paraffin in the needle, which renders the injection difficult, and causes injudicious expedition on the part of the operator.
15. Absorption or disintegration of the paraffin.
16. The difficulty of procuring paraffin with the proper melting point.
17. A resultant hypersensitiveness of the skin over the injected area.
18. A marked and more or less permanent redness of the skin over the injected area.

These, the more important objections, will be taken up seriatim and considered more or less at length, as may be required in each instance.

INTOXICATION.

1. The danger of an intoxication due to the absorption of paraffin was one of the first objections raised against the method; but it is now generally conceded that when such symptoms occur they are due to some impurity of the substance injected. Meyer was the first to emphasize this objectionable point, and his position was corroborated by the animal experiments of Straume, Dunbar, Stubenrath, and Sobieranski. These men injected paraffin in the lower animals, and for some reason procured a decided constitutional reaction, which they attributed to the toxic qualities of the foreign substance.

On the other hand, the experiments of Stein and of Smith demonstrate that this injection may be, and in their experience was, followed by no reaction, either constitutional or local. Jukuff made similar experiments, and concludes that the amount of paraffin injected subcutaneously, necessary to produce toxic symptoms, must be equivalent to 10 per cent. of the body weight of the animal into which it is injected. Granting the accuracy of his experiments, it would place the dangerous amount in the neighborhood of from ten to fifteen pounds, a quantity greatly in excess of the maximum dose employed in prosthetic surgery. These latter experiments, with the more convincing and constantly increasing number of satisfactory cases on the human being, have led to the belief that the experiments first cited were imperfect in some respect, either in an impurity of the injected substance or some error in the technic employed, and that there is no danger of any toxic absorption in the method.

REACTION.

2. A mild transitory inflammatory reaction usually occurs after the injection. A marked inflammatory reaction has been noted in but very few of the reported cases, and in these was usually due to avoidable and extraneous causes. The mild reaction that does take place before the encapsulation occurs is seldom of sufficient severity to warrant its being classed as inflammation.

INFECTION AND NECROSIS.

3. Infection followed by abscess formation, and, in consequence, a loss of tissue, can not be reasonably held against the method, but rather against the technic used in employing the method. This danger, infection, is no greater after this procedure than following the ordinary usage of the hypodermic syringe, which in proper and competent hands is practically *nil*.

4. The pressure necrosis that may be caused by the introduction of too large an amount of paraffin, is one of the most dangerous, humiliating and aggravating outcomes that may follow the use of this method, and it undoubtedly has occurred in a certain proportion of the cases. With the surgeon carefully molding the mass with the fingers of the left hand, as the paraffin is being introduced, in this manner being all of the time cognizant of the amount of pressure that is being exerted on the overlying skin, such an accident should rarely, if ever, occur. The circulation should always be perfect over the injected mass immediately after the conclusion of the operation. This can readily be determined by noting the return of the blood to this area after a local ischemia has been produced by digital pressure.

5. Sloughing of the skin has been noticed in cases where the harder paraffins have been used—those with a high melting point (59 to 65 C., 136 to 149 F). This is one of the objections raised to the use of the harder paraffins by those who employ that with a lower melting point. It is not rational to presume that such an occurrence would take place after the injection of paraffin with a melting point of 110 F.

6. In cases where the tissue covering the defect is very firmly attached to the underlying structures, and when it is necessary to inject into a very dense and inelastic tissue, the danger of sloughing is considerably greater. In order to reduce this danger, under the first circumstance it is advisable to detach the cicatricial tissue in some manner, before the injection, preferably by means of a subcutaneous incision. In the latter instance, it has been recommended that the injection of the paraffin be preceded by the injection of Schleich's solution into the area that the paraffin is to occupy. This would serve the double purpose of anesthetization and of dilating the tissue in preparation for the paraffin soon to follow.

Injection into this class of tissues was not originally intended, and is not to be enthusiastically recommended, even though a number of instances in which it has been successfully carried out have been reported.

ERRORS OF TECHNIC.

7 and 8. The introduction of too large or too small an amount of the substance is an error of technic and within the control of the operator. The latter is a comparatively slight fault, if one at all, and can be easily remedied by a subsequent injection. It is, indeed, a preferable manner of dealing with these conditions. It has been recommended that we make numerous injections of

a small amount each time, instead of attempting to remedy the entire defect at a single sitting. In this way one obviates the danger of making too large an injection. Freeman has noted a confusing amount of edema occurring very rapidly, which makes it sometimes dffficult to accurately estimate the amount of paraffin needed; at a second step of the operation the further requirements can be more accurately determined. Other advantages of this operating in stages are that, at the second sitting, there exists a more substantial basis to work on, i. e., the previously injected material. The skin is given an opportunity to gradually stretch and accommodate itself to the new state of affairs without any undue or hazardous tension.

The introduction of too large an amount of paraffin is an extremely difficult matter to remedy, hence great care should be exercised in attempting to prevent such an occurrence. The best treatment of this condition is prophylactic, i. e., as cited above, numerous injections of small amounts in preference to single injections intended to remedy the entire fault. Paraffin, while soluble in a number of substances, such as ether, chloroform, xylol, benzine, etc., can not be acted on by these through the skin.

Smith reports one case in which it was necessary to remove some of the injected paraffin. He made a subcutaneous opening and endeavored to curette some of it away, but found that it had become so intimately embedded in the tissue that it was impossible to remove it without removing a large amount of newly formed connective tissue as well.

EMBOLISM.

9. Air embolism is a very slight danger in all cases in which a subcutaneous injection is made, but can be readily excluded by taking the precaution to expel all the air in the needle and syringe before introducing the needle beneath the skin—the same as is done every day before hypodermic injections are made, i. e., hold the syringe erect, allow the air to come to the top, and then press on the piston till the air is forced out and the fluid escapes at the tip of the needle. But that this danger of air embolism is greatly exaggerated can be readily seen by referring to the experimental works of Senn and of Hare and also by the absence of symptoms of air embolism, after hasty and careless subcutaneous injections.

10. The introduction of paraffin into a vein, either directly or indirectly, and lung embolism as a result, is one of the most serious and consistent of the objections which have been raised against this line of treatment. Consistent, in that such cases have been reported by Pfannenstiel, Leiser and others, showing that the objection is not without foundation in fact. It is a fault which bears with equal force in any method of subcutaneous injection of a solid, semisolid or liquid, insoluble substance.

In Pfannenstiel's case, in which there was injected 30 c.c. of paraffin at the melting point of 45 C. (113 F.), the injection was followed by the typical symptoms of embolism, as described by the syphilographers, that has followed the injection of mercurials in oil, such as cough, chill, headache, vomiting, increased respiration and later dyspnea and cyanosis. The symptoms are usually very mild, death very rarely, if ever, occurring from this cause alone. In Pfannenstiel's case, the symptoms persisted for about one week and then gradually subsided with recovery of the patient.

Attention has been called, in this connection, to the experience of the dermatologists, with embolism after the injection of mercurial preparations suspended in liquid oils or paraffins. And from a review of the literature on that subject it would seem that embolism is far more likely to follow the parenchymatous than the subcutaneous injection, but in neither is it absolutely excluded, but apparently present in a small percentage of all the cases so treated.

This radical difference is to be noted between the injection of the liquid oil, as is done in treating syphilis, and the method under consideration. In the former the substance is in a fluid state, therefore absorption and emboli are more likely to occur than in the latter, where the injected substance is semisolid. With the injection of paraffin that emerges from the needle, as a worm-like string, and not in a fluid state, it seems that the danger of embolism may be very materially diminished, if not excluded. Comstock says: "In all cases in which paraffin was used at 102 F. the animals died within two weeks' time, hence the specimens at that temperature are limited (death being caused by thrombosis). . . . In all other cases, with the higher melting point, 110 F., no unpleasant results were experienced whatever."

Explanations of the accident in Pfannenstiel's case have been offered, such as: The temperature of the paraffin was too high, consequently it was injected hot and liquid, thus favoring absorption; or, the high temperature caused a coagulation of the blood in the veins, in this manner favoring the occurrence of thrombosis and embolism. Again, it has been said that so large an amount of paraffin, at so low a temperature, could not possibly harden when under the skin for some little time after the operation, and in this way make possible the occurrence of absorption and embolism. Other explanations are: That the injection was made parenchymatously instead of subcutaneously; that the injection might have been made directly into a vein.

For the prevention of embolism, it has been recommended that the injection be made into the subcutaneous tissue only and never into the parenchyma and that paraffin be utilized that has a melting point neither too high nor too low, this being best determined by seeing that the paraffin emerges from the needle, at the room temperature, in a worm-like string.

Stein says that all that is necessary to avoid pulmonary embolism is to avoid the pricking of a vein, and recommends that only subcutaneous injections be made, and that the needle be first inserted, and only after it has been demonstrated that no blood flows through it, should the syringe be attached.

Freeman says: "This danger may, perhaps, be avoided by using a blunt-pointed needle, after having first punctured the skin with a sharp one."

Paget advocates the application of a firm and close pressure all around the nose during the injection. Jukuff of Strausburg found unfavorable or fatal results experimentally, after the injection of over one-tenth of the body weight of the animal, or when the injected paraffin had a melting point below the temperature of the body. In the later instance, the autopsy invariably disclosed thrombosis in many of the smaller veins, and embolism of the lungs. Comstock concludes that paraffin must be used where it will be at all times above the temperature of the body, in order to prevent any danger from embolism.

UNDUE SPREADING OF THE PARAFFIN.

11. The paraffin, when first introduced under the skin, may extend to regions of the face that are normal, and not in need of this artificial substance. Such an exten-

sion to the loose areolar tissue of the infraorbital regions while injecting for the repair of a saddle-back nose is not uncommon. Such accidents are due to a hyperinjection, and care should be exercised, and only a proper amount of paraffin introduced.

Firm digital pressure around the nose, made by an assistant, may prevent such an occurrence. Paget states that this firm digital pressure may be helped by the use of a strip of lead or pewter beneath the fingers. Downie recommends the use of celloidin, as follows: Fifteen minutes before the injection he paints a band of celloidin (collodion will answer the same purpose) across the nose at the level of the eyes, and down each side of the nose, at the junction with the cheeks; this contracts and helps to prevent the paraffin from passing into the cellular tissue beneath the eyes. Immobility of the parts, and the local application of ice or cold, have been advocated as aiding in the more rapid setting of the mass, and in this way preventing its extravasation into undesirable parts.

12. Alter has called attention to a paralysis of the muscular action of the wings of the nose, resulting in impeded nasal respiration. He states that the current of air rushing into and through the nose carries with it an inherent tendency to draw the alæ septalward; this, however, in normal conditions is counteracted by the action of the dilators of the alæ nasi, viz., dilator naris posterior, dilator naris anterior, pyramidalis nasi, and the levator labii superioris alæque nasi. The modus operandi of this interference with the action of these muscles, according to Alter, is by compression, the presence of the paraffin interfering mechanically with their free muscular action, resulting in collapse or inward drawing of the wings of the nose during inspiration. He cites one case in which this interference with inspiration was very marked, after the injection of the paraffin.

As a preventive measure against such an occurrence, he recommends that an assistant make firm pressure on the wings of the nose, by placing a thumb in each nostril, and the making of counter-pressure on the outside with the index finger, this pressure being maintained until the nose has been molded into its proper shape.

13. There is but little danger that any of the paraffin will escape between the time of the withdrawal of the needle and the sealing of the wound puncture with collodion, if it is injected while in a semisolid state, as it should be. But it has been suggested that a piece of gauze soaked in ice water be placed over the nose before the withdrawal of the needle, and so hasten the setting of the paraffin and preventing its escape at the time of the withdrawal of the needle.

THE SYRINGE TO BE EMPLOYED.

14. Another annoying feature is the setting or the solidification of the paraffin in the needle before the injection is made, necessitating undue haste in the operation or great difficulty and force in the injection. To obviate this it has been recommended that the syringe be kept in a receptacle of hot water after being filled and until ready for use; or, a fine wire, such as is to be found in hypodermic cases, may be inserted into the needle to remove the obstruction. Downie winds the outside of the needle with a fine platinum wire, which is then kept hot by being connected with a storage battery. Eckstein places a rubber tubing over the syringe to keep in the heat. Karewski of Berlin has invented a syringe for this purpose, surrounded by a jacket through which circulates a continuous current of hot water.

In the writer's opinion, the best method to prevent this aggravating delay in the technic is by the employment of a syringe similar to the one described by Smith, and also used by Leonard Freeman, i. e., one in which the piston rod is surrounded by a coarse screw worm, and fitted on this rod is a metal thumb screw, which runs up and down, and is made to screw into the upper end of the cylinder of the syringe, at the volition of the operator. When the thumb screw is not fitted into the cylinder the piston works up and down, as in an ordinary syringe, and any liquid can be drawn up and expelled readily by manipulation of the piston; but when the thumb screw is put into place it becomes necessary to screw the piston down, and by so doing the paraffin is slowly and evenly ejected from the needle. By using a syringe of this character the necessity of an embarrassing haste and of a force, hard to apply, is dispensed with.

Before becoming familiar with the construction of such a special syringe the writer had improvised one by using the ordinary syringe with a screw worm on the piston rod, and on this screw a plate, which can be made to run up and down the piston rod. By a simple mechanism this nut or plate was fixed in place at the top of the cylinder of the syringe so that it could not turn. By screwing the piston rod we arrived at the same result as is achieved by the special syringe; that is, a uniform and steady pressure, with an equal and even advance of the paraffin, resulting in a regular and continuous, smooth emptying of the barrel of the syringe.

ABSORPTION OF THE PARAFFIN.

15. The point has been raised that the paraffin will serve as a temporary support only and soon disappear; that it will become absorbed or disintegrated. According to Gersuny, the mass of paraffin is not taken up by the lymphatics, but remains as an inert non-irritating body which soon becomes encapsulated and is subdivided by an ingrowth of newly formed connective tissue; the mass of paraffin finally becomes very finely divided and partially emulsified. These finely divided particles of the substance are first seen at the periphery of the mass and finally are absorbed, their place being by this time taken by new connective tissue, which gradually becomes harder, until it closely approaches the consistency of cartilage. This same chain of events has been noted, experimentally, by Juckuff.

This theory as to the ultimate destiny of the paraffin seems to be corroborated, and to coincide with the facts, in Smith's case, in which he endeavored to remove some part of the injected paraffin a number of months after the injection, and found that the greater part of it had become so intimately embedded in the meshes of the newly-formed connective tissue that it was almost impossible to remove the paraffin without also removing considerable of the connective tissue. Regarding this question, Stein believes that it is reabsorbed little by little, and replaced by connective tissue, so that the persistency of the plastic result is assured. And what confirms him in this opinion is that, whatever be the melting point of the paraffin—and it may vary considerably—the consistency of the nodule augments or diminishes by degrees, according to the case, so that at the end of a month or so, it is always perceptibly analogous to cartilage.

Freeman says encapsulation soon takes place, just as it does with a bullet or any other foreign body. A limited amount of connective tissue also penetrates the material, which is speedily converted into a solid cartilage-like mass.

Kramer has used melted agar-agar in subcutaneous injection for the production of connective tissue artifi-

cially, and has made interesting experiments on animals. On microscopic examination of the substance at different times he finds that the mass of agar at first becomes infiltrated with round cells, and that then these are replaced by vascularized connective tissue.

Comstock presents a most thorough and valuable work on the injection of paraffin, experimentally. He has made a most comprehensive study of the histologic and pathologic changes in the tissues of the body, and of the changes in the substance itself, after varying lengths of time and after the utilization of paraffins having different melting points. His conclusion is as follows: "In paraffin we have a substance that will fill in spaces of lost tissue, and not remain entirely a capsulated foreign body, but become a bridge work and, in fact, a part of the new tissue."

Downie injected some paraffin into a female breast one week prior to the amputation of that structure for malignant disease. After the removal of the breast, sections were made and examined. The paraffin was found in masses of various size located between collections of adipose vesicles, which were displaced by them. He infers that the paraffin had made its way along the lines of connective tissue trabeculæ, between the fat-containing cells. It is difficult for him to believe that the position of the paraffin would subsequently alter, to any extent, although its absorption seems quite possible.

Gersuny's first case was performed in May, 1899, and in the last report of that case, after a lapse of three years, there was noticeable no diminution in the size of the prosthesis.

This, with the other cases and experiments, would seem to indicate that if the paraffin is absorbed it is replaced by connective tissue, or if absorbed and not replaced by new tissue, it is absorbed so very slowly as to have no practical bearing on the advisability of operating by this method.

Granting that the prosthesis will gradually become smaller in time, from absorption or any other cause, repeated injections may be made at intervals, as the case may require, with but a small part of the inconvenience to the patient, as that which would accompany any of the so-called plastic operations in vogue before the introduction of the injection method, or, in the majority of cases, with less discomfort than will be associated with the persistency of the original deformity.

PREPARATION OF THE PARAFFIN.

16. To obtain a paraffin that has the proper melting point is something of a time-consuming and tedious procedure. The ordinary soft paraffin has a melting point of about 120 F., and this must be mixed with the white cosmolin, or vaselin, of commerce, which melts at about 100 F. The mixture is heated and its melting point determined by the following procedure, as recommended by Gersuny: The bulb of a clinical thermometer is coated with the mixed paraffins, and placed in a water bath, which is slowly heated until the paraffin melts and floats on the surface of the water; the heat is then removed, and the temperature of the cooling water noted, when the transparent drops of paraffin become opaque once more. If this temperature is not the desired one, the process must be repeated, after a recombination of the two paraffins, with the addition of more soft, if the melting point is too high, or the addition of more hard, if it is too low.

This tedious and objectionable experimenting in order to procure the proper mixture of paraffins has been rendered unnecessary by Dr. Harmon Smith of New York, who has had a paraffin prepared with the proper melting point in sterile sealed test tubes, and for sale in the market. It is advisable, as a regular procedure, to resterilize this commercial article by heating before using it. The paraffin prepared by Smith has a melting point of 110 F.

This brings us to a discussion of the question as to the proper melting point of paraffin intended for subcutaneous injection. Here we find considerable variance of opinion. Moszkowicz, Gersuny's assistant, states that the paraffin must have a melting point between 36 and 40 C. (97-104 F.). In speaking of Pfannenstiel's case, Moszkowicz said: "He injected paraffin with a melting point of 45 C., which is much too high." Parker utilized a paraffin with a melting point of 102 F. Leonard Freeman uses a paraffin that melts in the neighborhood of 40 C., 104 F. In Downie's cases the melting point varied from 104 to 108 F. Paget at first used a paraffin that melted at 136 F., then later one that melts at 115 F., and still later a mixture that melts at 111 F.

In the vast majority of the instances in which the method has been employed, the melting point has been in the neighborhood of 110 F. A higher melting point has been recommended and advocated strenuously by Eckstein, Karewski and others, the former placing the best point of liquidation between 56 and 58 C. (133 to 136 F.), and the other saying that the melting point should not be below 57 or 60 C. (134 to 140 F.). Paget says: "I am absolutely sure now that Eckstein's paraffin is without any real advantage. It is very difficult to handle, it sets very rapidly, it causes a gread deal of swelling and some inflammation, and may even produce some discoloration of the skin, and it yields no better results then does Pfannenstiel's paraffin, which melts at 115 F."

Comstock, after experimenting on animals with this point in view, says: "Paraffin must be used where it will be at all time above the body temperature." He also says: "In selecting the melting temperature point for surgical uses, allowance will have to be made for the difference in temperature between the rabbit and human species, which is about 4 F., making a choice of 106 or 107 F., the best for use in subcutaneous injections, for the reason that it gives a substance firm enough to hold very well its form, especially when confined by the surrounding tissue, and at the same time with a melting point out of the reach of the system at all times."

Some of the objections entered against the use of the harder paraffins are: Difficulty in manipulation at the time of the operation; heat and hardness, which are liable to favor the occurrence of irritation, inflammation or even necrosis; its liquid state at the time of the injection, which makes its localization more difficult and uncertain and which makes the formation of emboli possible. Paget calls attention to the fact that when the paraffin "sets" it shrinks, and the harder the paraffin the greater the shrinkage. Those preferring the use of the harder paraffin reply by stating that the softer mixtures, because of the longer time required for them to set, are more liable to extravasate, are less durable and permanent, and are more liable to form emboli.

Disregarding these theoretical points, from the literature, one must be convinced that the melting point most generally used is one between 105 and 115 F., though satisfactory results are not lacking in which paraffins of a higher melting point have been used.

SENSITIVENESS AND REDNESS OF THE SKIN.

17. A resultant hypersensitiveness of the skin over the injected area is a theoretical objection that has been

raised against this method of treatment, but which has not materialized in any of the available reported cases. There has been, in many cases, a slight painfulness, or rather a sense of fulness or distension, for a short time after the operation, and in some few cases a more marked painfulness existed for a longer time, but this invariably soon passes away and the sensation remains perfectly normal in every respect.

18. A redness of the skin over the injected area has been noted by many operators, but it has always been transitory in the reports of cases that have come under the writer's observation. Paget says: "In a few cases —but only in a few—some reddening of the skin has followed the injection, and in a very few this has been very slow to fade." These few cases occurred in a series of twenty-two cases, and we are not told whether it occurred more frequently after the injection of the paraffin with the high or the low melting point.

In one of the six injections reported with this small contribution to the subject, it will be found that this redness resulted and has been present for over a year, and during that time has diminished very little.

This resulting redness of the skin is the only objection of the many sources of failure or objections herein cited that I have found existent in my very limited experience.

(The conclusion of this article will appear next week with an article on the same subject by Dr. Harmon Smith.)

PRECISION IN THE DETERMINATION OF HUMAN PARASITES.*

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The ectoparasites of man are, generally speaking, well known, and many of them have been recognized from the earliest times. They are also easily determined, in the main, while, on the other hand, the difficulties to which they give rise are not, as a rule, serious, but yield readily to simple treatment. With the endoparasites, however, the case is precisely the reverse. They are not, as a rule, more than superficially known, and it is only recently that attention has been generally called to their number and the effects often serious which they produce in the human organism.

To be sure, a long series of such forms has been recorded in the past, and the serious effects of their parasitism has been emphasized in some quarters. Thirty years ago Leuckart[1] listed thirty-three species which had been found in man, and, in company with Virchow and a long list of other investigators, called repeated attention to the deleterious effect certain species exert. Braun's more recent work[2] discusses of certain and doubtful species 15 *Trematoda,* 20 *Cestoda* and 38 *Nematoda,* besides 30 to 40 *Protozoa,* which have been recorded from the human host. In studies on the various groups which I have recently published[3] this list is increased by two species, although the interval between the publication of Braun's lists and mine is not a year.

The various studies, however, have chiefly been made on forms found in the old world. Within very recent times these studies have begun to be extended over other lands. All the new forms recorded during the last five years have been extra-European, either new species peculiar to other lands, or new regions within which known forms have been found to exist. Perhaps the greatest advance has been in knowledge of the geographical distribution of human parasites. The large number of isolated cases of the occurrence of certain species has been supplemented by other cases showing more general occurrence or wider distribution, the results of which have been to demonstrate that these parasites are far more common and widely distributed than was believed heretofore. The accompanying table, which lists all human parasites of the various groups of worms heretofore recorded with a statement of the regions in which they are known to occur, will be of value as indicating the present knowledge on the subject. It has seemed to me best to confine the list to the worms, and to exclude the protozoan parasites for the double reason that the latter are very imperfectly known, and it would be difficult to present a satisfactory list, and, in the second place, that they are also more difficult to determine, even by the professional microscopist, and present insuperable difficulties to the ordinary practitioner.

It may be confessed at the outset that the table is probably incomplete. The individual records are much scattered, and in such form as to demand extensive critical editing. It would be improbable, then, that, even with the great care which has been exercised, all records should have been included. So far as the list concerns Europe and the United States, however, I think it may be said that it is most nearly complete, and includes all but the most obscure records up to the present date. It should nevertheless be borne in mind that one may certainly expect further evidence of the presence of some of these species in unrecorded regions and of the existence of new species in most of the regions of the world. Additional strength is given to this general premise by the discoveries which have been made within the past decade in these United States. Thus Thayer has demonstrated the existence here of the Indo-European *Strongyloides stercoralis.* White has discovered the Asiatic *Opisthorchis sinensis,* I have found the Asiatic lung fluke, *Paragonimus Westermanii,* and a new human tapeworm, *Tænia confusa,* while Stiles, in addition to records on the vinegar eel, *Anguillula aceti,* and other forms new as human parasites here, has contributed the most important of all these studies, namely, that on the widespread occurrence of a new hook-worm, *Uncinaria americana,* which is of great etiologic significance over large areas of our country.[4]

In the belief of the medical profession 200 years ago there was no disease, real or imaginary, which was not due to the presence and effect of some kind of parasite. Each ailment had its particular "worm" in its characteristic location. This was a direct result of the endeavor to reduce every malady to some definite cause, and from a joining of the unknown sickness with the parasites, of which they knew as little. Under the influence of study and of increase of knowledge regarding the parasites, such a theory was seen to be untenable, and the movement in the opposite direction began—a tendency which may be said by this time to have passed its height. In fact, there has prevailed during recent years among the medical men of this country an exaggerated idea of the unimportance of human parasites. It has been very generally maintained that the country was less infested than the old world, or that the

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

1. Leuckart, R.: Die Parasiten des Menschen, 2 vols., Leipzig, 1876.

2. Braun, M.: Die tierischen Parasiten des Menschen, 3 Aufl., Leipzig, 1902.

3. Ward, H. B.: Cestoda, Nematoda, Protozoa, Trematoda, Wood's Reference Handbook of Medical Sciences, Revised edition.

4. Stiles, C. W.: The Significance of Recent Cases of Hookworm Disease, Eighteenth Annual Report, Bureau of Animal Industry

forms, after all, were of little significance in the etiology of disease. I am of the opinion that the discoveries referred to furnish ample grounds for a modification of the position of indifference heretofore assumed, and in the United States, but similar significance has not been accorded to most forms.

Recent studies, however, have demonstrated the presence of hemoglobin in the alimentary canal of many

Parasite. (Scientific Name.)	Found as Human Parasite in: Stage of Parasite.	Found as Human Parasite in: Organ of Host.	Type of Parasitism.	Recorded Frequency as Human Parasite.	Geographical Distribution. Europe.	Asia.	Africa.	North America.	South America.	Australia.
Trematoda (flukes).										
Gastrodiscus hominis	Adult	Colon	Occasional	Twice		†				
Fasciola hepatica	"	Liver	"	Rare	†	‡§		‡§		‡§
Fasciola angusta	"	?	?	Once		‡§				
Fasciolopsis buski	"	Intestine	Normal	Rare		*				
Fasciolopsis rathouisi	"	"	Occasional	Once		†				
Paragonimus westermanii	"	Lung	Normal	Abundant	‡§	*				
Opisthorchis felineus	"	Liver	"	Frequent	†	†		‡§		
Opisthorchis sinensis	"	"	"	"		*				
Opisthorchis noverca	"	"	Occasional ?	Once		†				
Metorchis truncatus	"	"	Occasional	" ?		†				
Heterophyes heterophyes	"	Intestine	Normal	Frequent			*			
Dicrocoelium lanceatum	"	Liver	Occasional	Rare	†	†		‡§		‡§
Schistosoma hæmatobium	"	Portal vein	Normal	Frequent	‡	‡§	*			
Cestoda (tapeworms).										
Dibothriocephalus latus	Adult	Intestine	Normal	Abundant	*	*	†	‡§		
Dibothriocephalus cordatus	"	"	Occasional	Rare	†			†		
Diplogonoporus grandis	"	"	"	"		*				
Bothriocephalus mansoni	Larva	Connective tissue	"	"		†				
Dipylidium caninum	Adult	Intestine	"	"	†			†		
Hymenolepis nana	"	"	Normal ?	Frequent	†	†	†	†?	†	
Hymenolepis diminuta	"	"	Occasional	Rare	†			†	†	
Hymenolepis lanceolata	"	"	"	Once	†					
Davainea madagascariensis	"	"	"	Rare		†	†		†	
Davainea(?) asiatica	"	"	?	Once		†				
Tænia solium	♂ Adult	"	Normal	Abundant	†	†	†	†		
Cysticercus cellulosæ	♀ Larva	Connective tissue	Occasional	Rare	*			†		
Tænia saginata	Adult	Intestine	Normal	Abundant	†	†	†	†		
Tænia marginata	Larva	Connective tissue	?	Once ?				†?		
Tænia serrata	Adult	Intestine	Occasional	Twice ?			†?			
Tænia africana	"	"	Normal ?	Once			†			
Tænia confusa	"	"	" ?	Twice				†		
Tænia echinococcus (Echinococcus polymorphus)	Larva	Connective tissue	Normal	Frequent	*			†		†
Tænia hominis	Adult	Intestine	?	Once		†				
Nematoda (round worms).										
Leptodera pellio	Adult	Vagina	Accidental	Once	†					
Leptodera niellyi	Larva	Skin	Accidental ?	"	†					
Anguillula aceti	Adult	Bladder	Accidental	Rare				†		
Strongyloides stercoralis	"	Intestine	Normal	Abundant	†	*	*	†	†	
Gnathostoma siamense	"	Skin	Occasional	Once		†				
Filaria medinensis	"	"	Normal	Abundant	‡	*	*			
Filaria loa	"	Eye	"	Frequent	‡		*	‡§	†	
Filaria volvulus	"	Lymph vessels	Normal ?	Rare	‡	†?	*			
Filaria conjunctivæ	"	Conjunctiva	Occasional	"	‡					
Filaria lentis	Young	Eye	?	Uncertain	?	?				
Filaria restiformis	Adult	Bladder ?	?	Once				†		
Filaria hominis oris	?	?	?	"				†		
Filaria labialis	?	Lip	?	"	†					
Filaria lymphatica	Adult	Lymph vessels	Occasional ?	Twice		†				
Filaria immitis	?	?	?	Uncertain	†?	‡§		‡§	§	
Filaria bancrofti	♂ Adult	Lymph vessels	Normal	Abundant	†?	*	*	†	†	†
	♀ Larva	Blood	"	Frequent §						
Filaria magalhaesi	♂ Adult	Heart	Normal ?	Rare						
	♀ Larva	Blood								
Filaria perstans	♂ Adult	Connective tissue	" ?	Once	‡		*		†	
	♀ Larva	Blood								
Filaria diurna	Larva	"	Normal	Frequent			†			
Filaria demarquayi	"	"	Normal ?	Rare				†		
Filaria romanorum-orientalis	Adult	"	?	Once	†					
Filaria ozzardi	♂ Adult ?	Connective tissue								
	♀ Larva	Blood	Normal ?	Rare					†	
Filaria kilimaræ	Adult	Body cavity	?	Once			†			
Trichuris trichiura	"	Colon	Normal	Abundant	†	*	†	†	†	†
Trichinella spiralis	♂ Adult	Intestine	"	"	†	†	†	†	†	†
	♀ Larva	Muscle	"	"						
Strongylus apri	Adult	Lung	Occasional	Rare	†					
Strongylus subtilis	"	Stomach	Normal ?	Twice		†	†			
Dioctophyme renale	"	Kidney	Occasional	Rare	†					‡§
Uncinaria duodenalis	♂ Adult	Intestine	Normal	Abundant	†	†	†	†		
	♀ Larva	Connective tissue	"	"						
Uncinaria americana	Adult	Intestine	"	"		†		*		
Physaloptera caucasica	"	"	?	Once		†				
Ascaris lumbricoides	"	"	Normal	Abundant	†	†	†	†		
Ascaris canis	"	"	Occasional	Rare	†			†		
Ascaris maritima	" ?	?	?	Once				†		
Oxyuris vermicularis	"	Intestine	Normal	Abundant	†	†	†	†		
Gigantorhynchus gigas	"	"	Occasional	Rare	†?			‡§		
Gigantorhynchus moniliformis	"	"	"	"	†					
Echinorhynchus hominis	"	"	?	Once	†					

Explanation of signs,—* Recorded from man; autochthonous to region. † Recorded from man; probably endemic, though often secondarily. ‡ Recorded from man; probably acquired elsewhere. § Recorded from some other host, hence possible in man. ? Record open to question.

in the treatment of disease call for more careful consideration of such forms as possible factors of etiologic significance. The clinical importance of parasites is generally recognized in such cases as bothriocephalus anemia, of which only a very few instances are on record

nematode parasites, the pathologic effect of whose activities must be counted much more important than heretofore estimated by reason of this blood-sucking habit. Thus in cases of uncinariasis the amount of blood lost from myriads of minute hemorrhages imparts a char-

acteristic reddish brown color to the feces, the intestinal wall becomes seriously affected, and affords places of easy attack for any pathogenic germs which may be present. This indirect damage may be very serious in the individual instance, and may include primarily or secondarily undesirable regressive or progressive histologic changes, inflammatory processes and disturbances in the circulation.

Another source of danger from parasites is one which has long been surmised, but only recently demonstrated. A number of investigators have shown that various *Cestoda*, *Acanthocephala* and *Eunematoda* contain definite poisons (toxins) which, when extracted and employed experimentally, affect particularly the nervous system and the formation of blood. The continued formation and giving off of such a substance would explain the apparently excessive results of parasitism in some instances, results which are shown prominently in reflex nervous symptoms. In a certain proportion of cases, pernicious anemia is the result of this toxic effect, and is accompanied by a mortality of 17 per cent., according to one report regarding *Bothriocephalus*. Whether the poison is elaborated by the parasite, or is produced by pathologic processes in the worm, or by its death, as well as the ground for the variability in the toxic action of different specimens, are questions as yet undecided. It has been shown, however, that the extracts from different species of helminths vary considerably in toxic power. Vaullegeard has isolated two toxic principles, one of which acts on nerve centers and the other on muscles, and many symptoms, produced experimentally by the injection of these substances, are analogous to those manifested in parasitic disease. According to this chemical theory, the troubles caused by parasites are due to the formation of toxic substances more rapidly than their elimination of the host, and their consequent accumulation in the system. A striking instance of the actual effects of parasitism on a large scale is set forth by Stiles[4] in his description of the general anemic condition and the lowered physical and mental vitality of the families and communities where *Uncinaria americana* is common. These considerations are sufficient to show the greater numbers and more serious effects of human parasites in our own country than has been conceded hitherto.

In the next place it is necessary to emphasize the importance of the accurate identification of human parasites. They are by no means all of equal etiologic rank; some are known to exert deleterious effects on the human organism, regarding the action of some much doubt exists, and there are others which are believed to be indifferent to man. Furthermore, even of those whose injurious effects are unquestioned, the results on the hosts differ notably, and the line of successful treatment differs equally. It is evidently important, then, to determine accurately with what species the practitioner has to deal in the individual instance. To-day no one would be satisfied to accept the diagnosis of "fever," and how can the diagnosis of "worms" be regarded as more sufficient?

In reaching a precise determination, the physician has to deal usually with what is purely a microscopic question. The data which are essential are obtainable only by the use of the microscope, and yet they are very easily secured. They do not involve any complicated technic or the use of high powers, and a series of time-consuming cultures is entirely unnecessary. The determination is most readily made from fresh material, and, while it should be repeated several times in order to exclude all possibility of deception or accident, it requires only a brief time and the use of comparatively low magnification. A consideration of the factors involved will make the matter clearer.

Evidence of the presence of parasites will ordinarily be obtained by an examination of the blood, sputum, urine or feces. The first three are very frequently examined in the diagnosis of disease, and, as a matter of fact, they rarely furnish evidence of parasitism. So far as I have been able to learn, fecal examinations are rarely made, and yet by them evidence of parasitism would be most largely furnished.

By means of such examination one finds sometimes specimens of the entire adult parasite; again, recognizable fragments of the same, its embryos, or its eggs. It is comparatively rarely that one encounters specimens of the entire parasite, and unless the latter is very abundant, such specimens may easily be overlooked if not of such size as to be readily visible to the naked eye.

The identification of the parasite by some recognizable fragment of the body is regularly made only in the case of the tapeworm, which is determined by the passing of segments or proglottids at stools. While the precise determination of the species of tapeworm from the separate proglottids is often a matter of more difficulty than ordinarily believed, the cases of confusion resulting therefrom are not such as to introduce any difficulties in the accepted treatment. In passing, it may be noted, however, that the determination of tapeworm proglottids as flukes on account of their active independent movements is a frequent error. The examination of such structures, even with a hand lens, will show the absence of features characteristic of the flukes.

The determination of embryos is not attended with difficulties, so far as the different groups are concerned. The individual species of *Filaria* have been but little studied, and are imperfectly known. These forms are probably rare in our fauna, unless it be in the Southern states, and methods of coping with them are yet to be worked out.

It is ordinarily with the eggs of parasites, if found at all, that the greatest difficulties in precise determination are experienced. This is, in large part, due to the inaccurate and insufficient knowledge concerning them. A comparison of the original sources with various manuals shows that serious errors in measurement have crept in and that mention of important and characteristic peculiarities has often been omitted. I have, accordingly, published elsewhere[5] a critical review of these features, with illustrations to which those interested may be referred for details. Here it is possible to review only certain general features.

The eggs of parasites may be distinguished on the basis of form, size, texture and other individual peculiarities. Any one of these elements is usually insufficient for specific distinction; but, with the exception of a few forms of rare occurrence which are imperfectly known, the group of characters enables one to make a determination. In reaching a decision, the observer should, however, keep in mind certain general points. In the case of tapeworm eggs, there are sometimes external membranes of a deciduous or variable character. Their presence in an extended or in a shrunken condition, or their absence, may alter greatly the external appearance of the eggs; the appearance and size of the inner membrane and of the included embryo are, however, relatively constant. The eggs of flukes and of

5. Ward, H. B.: Data for the Determination of Human Parasites, Trans. Amer. Micros. Soc., vol. xxiv, 1903.

round worms have only a single firm shell of chitinous character, and are in color usually a faint yellowish-brown, varying to darker brown. As the shell is firm, it can not be materially modified in size by pressure, although since the increase in width is relatively much greater, the proportions are noticeably altered. All eggs are not mathematically uniform in size; the range of variation is in most cases small, and the average readily obtained by measuring ten or a dozen specimens taken at random. The same comparison of a number of specimens will serve to eliminate abnormalities of the individual egg and to give a correct idea of the typical structure.

It is necessary now to call attention to possible results of the examination in the way of non-agreement of the forms discovered with the data at present known regarding human parasites. Such non-agreement may, of course, point to the discovery of a form new to the world, and most frequently has resulted in the description of the form under these conditions as a new species which has been duly baptized. Unfortunately, there are two other possibilities which are more frequently met with than the one just cited, and a disregard of them has led to great confusion. It may be, in the first place, that the species is new to the human host, but is one which is known from some other host. It, consequently, should not receive a new name, but should be discussed merely in the light of its occurrence under these conditions heretofore unknown. Such a species may be normal to the human host as well as to that from which it was previously known, but a considerable range of cases must be brought forward in order to demonstrate this fact. When only a single case of the occurrence of the parasite is determined, such new forms fall more frequently into the categories known as occasional parasites, and accidental parasites.

One may recognize among human parasites those which occur in their normal host, but in an unusual location, like the brain cysticerci; there are also many of the species listed which can not be regarded in any way as characteristic of the human host. Such are the occasional parasites which are species of true parasitic habit and able to attain normal development in the human host, but ordinarily not finding conditions favorable for their introduction. As an instance of such species may be mentioned *Fasciola hepatica,* the common liver fluke of the sheep, which in many regions of the world is extraordinarily abundant. That it can thrive in the human system is demonstrated by the score or more of definitely recorded cases of its occurrence there, but its infrequence is equal evidence of a general immunity on the part of man, lacking in these particular cases, or of some special feature in its life history which makes the infection of the human host difficult. That the latter is the probable explanation may be inferred from the fact that the cercaria larva, liberated from the intermediate host, encysts on plants and, hence, could only reach the human alimentary canal under unusual circumstances. Similar examples may be taken from other groups of parasitic forms, such as the rare occurrence in man of *Strongylus apri,* one of the commonest parasites of the pig in Europe, or of *Dipylidium caninum,* the cosmopolitan tapeworm of both dog and cat which has been reported only rarely from man.

Such occasional parasites often occur under abnormal conditions; thus, a fish nematode, *Ascaris clavata,* was discovered once in the hollow tooth of a man. Here the position was probably accidental, but in other cases it is the result of the action of the parasite itself. So the red spiders, or "jigger" mites, of the central states bury themselves in the skin of man, although such a position is so clearly abnormal that, in fact, it destroys the chance of development and costs the parasite its life. A small leech, *Limnotis nilotica,* common in the circum-Mediterranean area, is often drawn into the throats of men and other animals drinking at wayside pools. It usually retains its position, causing serious difficulty, until removed by operative interference; hence it has become an occasional parasite of man rather than as most leeches, a temporary parasite; or one may regard it as falling in the next following group of accidental parasites. This example shows most clearly the narrow and somewhat artificial limits which separate these groups of parasites from one another. Of the mites also which have been reported a few times as obtained living from stomach, bladder and rectum, it is difficult to say whether they are occasional or accidental parasites of man.

There are also, rarely, other forms which usually occur free living, but which by chance are introduced into some organ in which conditions are such that they can thrive. They become thus accidental parasites, a group difficult practically to distinguish from the last, the occasional parasites, and yet presenting somewhat different biologic conditions. The recent discovery by Stiles and Frankland, as well as others, of the vinegar eel, *Anguillula aceti,* as an apparently successful colonizer of the bladder in a female patient, illustrates the type under consideration. There is little doubt that this parasite was introduced through the use of vinegar in vaginal douches and effected a successful colonization, possibly by virtue of the trace of albumin present in the urine which furnished the worms with nourishment. Equally striking is the case of Scheiber, who discovered *Pelodera pellio* in the urine of a female patient in Hungary. This typical slime-inhabiting nematode gained entrance no doubt through the application of mud poultices, which are commonly employed by peasants in that region. It should be noticed that such accidental parasites are necessarily confined to those groups of animals which have free living forms. Such are *Protozoa, Nematoda* and, perhaps, *Insecta* in the larval condition, while *Cestoda* and *Trematoda,* which live only as parasitic forms in some host, would become rather occasional parasites of man should they stray into the human system in some chance manner and find favorable conditions for existence.

Another type of animals found in man is quite distinct from those just considered. They are known as pseudoparasites and rank high in clinical importance. Among them one may recognize several very distinct classes. First, those which are actually free living animals, introduced by accident, usually in food or drink, into the human alimentary canal, and exciting there abnormal conditions which induce their more or less immediate and forcible expulsion. Thus Botkin found in the vomit of a Russian numbers of a small nematode which he wrongly believed to be a human parasite. In fact, it lives normally in the onion, and its introduction into the stomach with this food excited the untoward symptoms noted. Similarly, Blanchard records a case in which coleopterous larvæ were found in the vomit of a child.

That such may be the result of introducing a true parasite from some other host is indicated by several cases like that of *Ascaris maritima,* which Leuckart described from a single specimen vomited by a child in Greenland and which this author noted was very simi-

lar to *A. transfuga* of the brown bear. In all probability it was ingested with the viscera of some animal (seal?), though it may have been a species which had strayed into this unusual host only to make its appearance under the circumstances noted.

Of similar import are the cases of *Gordius*, the hair snake, which have been reported from man. In the adult condition this is normally a free living species, but about a dozen specimens have been taken from man after a supposed sojourn of from a few hours to fourteen days. Some of these have been vomited and others passed per anum. This form has often been passed off on the physician as a true parasite, and in one celebrated case at least as the Guinea worm.

In the same way one may find the explanation for other isolated cases of parasitism, even when the parasite is reported to have been passed from the alimentary canal. Thus Cobbold reported that larvæ of *Blaps mortisaga*, the English churchyard beetle, were found in fecal discharges, and many authors have recorded the presence of dipterous larvæ in the alimentary canal.

The majority of such observers has inclined to regard the larvæ as temporary endoparasites and to consider that they have accommodated themselves to the conditions present in the human host. Certain cases seem to show that these larvæ live for some time in the canal and often appear to evoke serious or even fatal disturbances; and yet the conclusions are open to grave doubt, for Calandruccio experimented extensively on two families, to which many of the supposed accidental parasites belong, and found that the ingested larvæ were regularly and promptly evacuated dead or dying, and in no case secured a footing in the canal.

Among the myriopods, about 40 recorded cases of pseudoparasitism have been brought together and discussed by Blanchard. In the large majority the animal was taken from the nasal fossæ, though in a smaller number it was actually obtained living from the alimentary canal, where it undoubtedly can exist for a brief time in spite of the untoward environment. The ingestion of such forms is purely accidental, the symptoms those of helminthiasis in general, and their stay at most very limited. They never show any evidence of adaptation to the new environment.

In some such accidental fashion other forms are sometimes introduced into various organs not connected with the alimentary system. Thus Trouessart reported the occurrence of a species of detricolous sarcoptids in the human testicle, where the mites formed an old colony in a painless cystic tumor.

In addition to the living animals of the types noted, the second class of pseudoparasites includes a large number of other structures which have been described as parasites. These may be considered conveniently in a few groups, the first of which includes bodies which are parts of the so-called host animal itself. Thus fragments of the arteria hyaloidea have been described as eye worms (*Filaria lentis, F. oculi-humani*, etc.); the supposed organisms of whooping cough are nothing more nor less than ciliated tracheal cells torn from the wall and found in the sputum in distorted form, while groups of small axillary and inguinal glands, hydatid moles and pacchionian bodies from the arachnoid have been frequently put on record as hydatid cysts.

Parts of substances used as food, both of plant and of animal origin, which have not been destroyed by the action of digestive juices, are also among the pseudoparasites of man. The radulæ of the common limpet have been reported several times from stools; the seeds of the mulberry were duly baptized as parasitic worms; and plant vessels and other similar undigested structures of peculiar appearance appear periodically as new helminths. That a differentiation of such structures is not simple appears from the account given by Stiles of the partially digested banana fibers, which closely simulate minute tapeworms. Some years ago Leuckart entrapped a group of research students in helminthology with the pulp vesicles of an orange which were found in a fecal examination.

In all of the cases considered above, it has been presupposed that the structures obtained actually came from within the human body. It is necessary, however, that the physician should have personal evidence of this, for there is another class of objects of which it can not be said. And these structures deserve brief mention in closing.

In determining the nature of unusual forms reported from man, it should always be kept in mind that in the absence of positive personal evidence, suspicion in cases of neurasthenia at least favors the deceitful introduction of such doubtful bodies. In many cases on record such things as earthworms, chicken entrails, etc., have been forcibly introduced into the rectum or vagina and have been subsequently reported by the attending physician as undoubted human entozoa of a remarkable character! Here, as elsewhere, the appearance of unusual structures should at once arouse the suspicion of the physician and call forth a most searching examination of the case in all its factors that any deceit be disclosed, or that in the event of the discovery of some rare parasite all conditions connected with its appearance be put on record for future use. Furthermore, it is important to preserve the fullest data in regard to any substances associated with it, as well as the food of the patient, whether usual or unusual, since in this way some hint as to the introduction of the supposed parasite may be found.

Finally, it is important to direct attention to the wisdom of preserving all doubtful material, whether new or not, in considerable quantities, and both the eggs and embryos, as well as the adults, or as many thereof as can be obtained. In case of doubt regarding the identification of species, or possible question as to the source, it is important that the material or some portion of it should be referred to some expert helminthologist for examination and verification of the result attained. It is always a pleasure to have the opportunity of examining such material, and to assist one's colleagues in any way in connection with such studies. In most cases, in fact, and especially such as deal with the occurrence of rare forms, or such as are new, it is desirable that such corroborative evidence should be secured before publication, for in this way is often prevented the confusion which arises from incorrect descriptions or from the publication of new names which are merely synonymous with those already known to science. As a matter of fact, the practitioner can hardly hope to be acquainted with the entire range of parasitic species, and if to the accurate observations which he records regarding the clinical side of the question can be appended the notes of some helminthologist who is in a position to give an expert opinion regarding the other side, the results are far more valuable to the world from their rounded scientific character and permanent value, than could be attained by the publication of either group of factors separately.

The large number of parasites in other animals which some unusual combination of circumstances may bring

into the human system makes it imperative that any supposedly new species be submitted to the judgment of a specialist before it is described as such. Only in this way can the discoverer avoid adding to the long list of synonyms which already burden the literature of this subject and render it so difficult for the investigator not a specialist in this particular line to find his way aright.

DISCUSSION.

DR. FRANK B. WYNN, Indianapolis—First, I want to refer to a clinical case in the practice of W. B. Fletcher of Indianapolis. A patient had suffered for a long period from seizures of an epileptic nature of severe type. Segments of tapeworms were found in the stools. After the administration of proper remedies the parasite was expelled and the patient had complete relief from all symptoms.

A word in reference to spurious helminths. I recently had sent to me by a physician worms alleged to have been passed in the stools of a woman. They were the larvæ of the bluebottle fly. As she was said to be passing these in large numbers, I asked for a second sample and found them different from the first. A third supply revealed still a different species. So my first suspicions were confirmed, that a hysterical patient was practicing deception on the Doctor.

Dr. Ward has referred to one feature of great practical importance, which I should like to emphasize if possible, and that is the errors of practitioners in dealing with supposed intestinal parasites. Some two years ago I received from a doctor some little dark threads, passed in the stools of a patient and thought to be worms. Since then I have received two other specimens, identically similar from different patients. Under the microscope were to be seen chains of large, amber-colored oval bodies. My first impression was that they were uric acid nuggets formed on a cotton fibril in the vessel where the excreta had been passed, and that the sharp points of the crystals had been dissolved off as the urine became alkaline. By and by I found spirals, proving the vegetable character of the bodies. The next point of interest to determine was from what vegetable they came. In conjunction with my botanical friend, John S. Wright, it was soon demonstrated that these dark strings were of the fibrovascular tissue of the banana, especially the older fruit near the core. Age or light leads to pigmentation of the rows of large parenchyma cells along the strings of fibrovascular tissue. (The specimens exhibited were reported to the Indianapolis Medical Society about two years ago.)

Shortly after this investigation I received another specimen supposed to be tapeworm. The segments were too long and slender, however, and instead of being square cut were oblique at the ends. I suspected they were vegetable in character, and on investigation they were proven to be cabbage, prepared as slaw. (Specimen exhibited.)

I want to call attention to another structure not rarely found in the stools which I had some difficulty in running down. Dr. Ward informs me that he had a similar experience. I refer to the fusiform and attenuated masses of cells found in the lemon and orange, which are not unlike the fluke. Some were sent to me two years ago, supposed to be parasites.

These experiences led me to start some of my students in the medical department of the University of Indianapolis to studying some of the more common fruits and vegetables used as articles of diet. The results are presented in the Scientific Exhibit. First, sections were prepared of crude vegetable or fruit. Secondly, fresh glycerin mounts were made of the same articles, as found on the table ready for eating. And thirdly, each student ate abundantly of the article assigned, and afterward his stools were carefully examined for remnants of the food taken. We found that a number of these examinations showed products which might easily be mistaken for parasites. The fibrovascular threads of the pineapple, rhubarb and celery are particularly apt to mislead, as will be readily appreciated from the specimens here exhibited.

The specimen I have here came from my own stools. I was surprised to find these long flakes, not unlike tapeworms. It proves to be paper. Paper intimately adherent to candy, meat from the butcher shop, bread, etc., is often swallowed unconsciously, is wholly indigestible and might be mistaken for the segments of tapeworm or membranous exfoliation of colitis.

DR. WALTER L. BIERRING, Iowa City, Iowa—In connection with the remarks made by Dr. Wynn, I would like to refer to an experience with the spurious tapeworm disease in Iowa during the past winter. Two specimens of material were sent to me from different parts of the state, in both cases being derived from the stools of children 5 years of age. Periodical attacks of indigestion were noted and when this tapeworm-like material was passed the child in each instance improved. One of the specimens came from one of the best physicians of our state, who entertained an idea that it might be a case of *Tænia nana* infection. After repeated examination of the material and suspecting it to be some vegetable fiber, I referred it to Dr. Stiles of Washington, who informed me that the tapeworm-like material was composed of undigested banana fibers. For the purpose of corroboration various tests were made in the pathologic laboratory, one of which consisted in giving test meals of banana and finding the dark-colored segmented fibers subsequently in the stool, and the other consisted in applying a 10 per cent. solution of potassium hydrate to banana, which brought the transverse fibers of the banana that are evidently indigestible out very prominently, also giving to them the dark color which they usually attain on exposure to the light.

DR. ALLEN J. SMITH, Galveston, Texas—I have found that almost every living thing is possessed of some parasite, and they have a widespread pathogenic influence. The subject is one obtaining greater recognition within recent years, as shown by the increasing prominence given it in pathologic text-books; but as yet in this country it has by no means had sufficient stress laid on it. There is not as yet sufficient demand for information on the lines of the paper just read to have called forth a single good text-book in our language. There are a number of excellent German and French works dealing in an authoritative and systematic manner with human and comparative zoöparasitology, but none in our own tongue (except the work written by Neumann for veterinarians and translated from the German). Within the past three years I have approached no less than six of the more prominent American medical book publishers with a proposition to publish a translation of Railliet's *Traite de Zoologie médicale et agricole*, but all declined on the ground of financial danger. I regret my failure, as the work in hand of many practitioners in this country really presents a great need for some standard work of the kind. As an illustration of the importance of the general subject, I call attention to the recent work of a number of observers in relation to the new American hookworm, *Uncinaria americana* (Stiles); a parasite first discovered in Galveston, and since then met by a number of observers in the southern and eastern parts of the country. The excellent work of Stiles, of the United States Public Health and Marine-Hospital Service, has demonstrated how this parasite is probably wholly or at least largely responsible for the miserable state of the well-known "poor whites," known so widely as dirt "eaters" in these districts, pale, large-bellied and thin, for the inertness and laziness for which they are so much criticised, as well as for really serious pathologic conditions in these people. Aside from its proper influences this parasite seems to seriously influence and perhaps modify the course of other diseases with which it may be associated; for example, it probably is an influence making malaria more persistent. From observations of my own, where the uncinaria and malarial parasites coexisted, I have noted the difficulty in getting rid of the malarial infection by the usual use of quinin until the intestinal parasites have been disposed of—a relationship perhaps depending on the influence of the latter in keeping at a low ebb the natural antagonistic powers of the body against the malarial organisms and thus permitting redevelopment of any hematozoa remaining after a course of quinin administration. This I have

so persistently noted that I feel the importance of seeking the coexistence of these intestinal parasites in the particularly obstinate chronic and recurrent forms of malaria in these southern districts as possible influences in the clinical course of such a case.

Another example of the importance of the subject is the recent discovery in Texas and elsewhere of *Tænia nana*, a tapeworm known to be responsible for considerable intestinal disturbance, for the development of pernicious anemia and in various instances of epileptiform phenomena. Such instances of the importance of animal parasites might be indefinitely multiplied; and the importance of this branch of pathology is manifesting itself more and more as time goes on. The field, however, has by no means received the attention its importance deserves; and for one I feel anxious that it shall soon be represented by some adequate reference work in our own language, or some translation of one of the worthy European works annotated from an American standpoint.

DR. H. B. WARD, Lincoln, Neb.—I think Dr. Wynn's date of two years is the record for the banana fibers, though within that time Stiles of Washington, Bierring of Iowa and a number of men in different parts of the country have made the same discovery. One case to which I did not refer in the paper came to me last year in Nebraska, which has the further interest that the physician said it was a remarkable case of tapeworm, as it was found in the alimentary canal and also in the vagina.

One thing I should like to emphasize in closing. It has been mentioned again and again to-day in this and in other sections that there is a sad lack of fecal examinations. Last year a very well educated and a very bright and thoughtful physician in a city not my own permitted a patient to die of pernicious anemia without a single fecal examination.

UNCINARIASIS IN THE SOUTH.

FURTHER OBSERVATIONS.*

CLAUDE A. SMITH, M.D.

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ATLANTA, GA.

Since presenting the paper before this Section at the meeting in Saratoga last year, in which I reported three cases of ankylostomiasis, or uncinariasis, the first case being found postmortem, in December, 1901, and the other two being mild cases found among the negro convicts working in the brickyards near Atlanta, I have found this disease to be exceedingly common from the Carolinas to Texas. I make this statement as a result of examinations of medical students at the Atlanta College of Physicians and Surgeons, at the Southern Dental College, patients sent to Atlanta from the adjoining states and a systematic examination of all the patients in the Grady Hospital for the past year. However, very few cases have appeared at the Grady Hospital for the reason that all the patients in the public wards must be residents of Atlanta, and, as this is a disease of the country and not of the city, we would not, therefore, expect to find many in the hospital. Since the postmortem on the case reported last year, I have made fifty postmortem examinations at the hospital, and among these have had only one case of uncinariasis.

This disease is found in the mountains as well as in the lowlands, but is more common the farther south you go, as the conditions for the production and development of the larvæ are more favorable. The disease is very common in regions where the chances of contamination of the drinking water with surface drainage is very slight.

The disease may occur at any age, but is more commonly found in children. The cases seen by me range from three years to over fifty years of age. It is more common in males than females, and is usually found among the children of the lower classes, but I have seen several cases among the better class. It appears to be more frequent among the whites than the negroes. It is a disease of the country, and the possibility of its presence should be considered in all patients who give a history of having resided in the country or small villages within seven or eight years. It prevails where unsanitary conditions abound.

The eggs of the parasite are passed in the feces of persons affected with the disease, and these feces, being deposited about on the earth, furnish the original source of infection. The life history of the parasite found in the dog and the one found in man is very similar, but I have not been able to infect one from the other.

I have found the eggs in the stools of a dog, and a careful postmortem examination showed only three of the worms in the intestine of the dog. This shows that no matter how small the number of worms may be, it is possible to find the eggs in the feces. Practically, the same thing applies to the parasite found in the human intestine, as one case disclosed only seven worms postmortem. It is possible for one experienced in making these examinations to give a fair idea of the number of worms in the intestine from the number of eggs appearing in the stools. They can be estimated with a greater degree of accuracy in this way than by the symptoms of the patient, as a comparatively small number in one person will produce severer symptoms than a larger number in another person.

A live uncinaria removed from a dog under chloroform was seen by me to discharge 22 eggs in one minute, and while this was taking place there was no appreciable diminution in the quantity of eggs contained in the uterus of the worm. This gives us some idea of the great number of eggs which may be thrown off by one worm.

As a rule, the eggs do not hatch while in the intestines. I have found the larvæ hatched out in only two specimens of feces. Usually, it is necessary for the eggs to become mixed with earth before they will begin to hatch; that is, they seem to need air. The eggs can be hatched without any difficulty if the feces containing the eggs are mixed with sufficient earth or sand to destroy the odor of the feces. They will hatch in from twelve to twenty-four hours, or longer, depending on the temperature and moisture; too much moisture inhibiting their development.

They are destroyed by freezing, as also by drying, but they must be thoroughly dry, the least bit of moisture preserving them. Feces which are perfectly dry on the outside will be found to be moist in the interior and the eggs there still preserving their vitality. In warm weather, if the eggs are kept in moist feces, I have been unable to hatch any of them after two weeks. In hatching, I have observed the larva emerge tail first from the egg.

For the first day or so the larva is rather sluggish, but as the first sheath appears it becomes more energetic and is extremely lively at times. If in water alone it wiggles at a lively rate, but does not make much headway, but if imbedded in earth or sand, where it can obtain a foothold, by a sinuous motion it darts through sand at a lively rate. These periods of activity are of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. H. Bolduan, F. B. Wynn and W. S. Hall.

variable duration. The larva will move quite lively for from a few minutes to half an hour or more, and then it will straighten out and lie perfectly still for a corresponding length of time.

Freezing destroys the larvæ, as will also drying. However, it should be remembered that soil which to the naked eye appears perfectly dry will, on examination with the microscope, be found to contain a small amount of moisture, and such an amount as is sufficient to preserve the vitality of the larvæ. But, if they do become thoroughly dried, if only for a moment, they can not be revived. Knowledge of the conditions under which these larvæ exist are of great value in determining when and how the disease may be contracted. When we remember that it freezes every winter throughout the South down through the northern part of Florida, we can readily see that the disease could not be contracted in the winter; also, as drying destroys the larvæ, their existence is a very precarious one. However, during the warm summer months, when there is a rainy spell, the ideal conditions prevail for the development of the larvæ, and so this is the time at which we would be most likely to encounter them.

The next point which concerns us is, how do they reach the intestinal canal? It was not suspected until the last few years that it could reach the intestines other than through the mouth, and especially as moisture is necessary for the existence of the parasite it was supposed to gain entrance principally through drinking water. However, since Looss has demonstrated that the larvæ may pass through the skin, and Bentley has attributed the pani-ghao, or ground itch, to the larvæ, it has opened up new avenues for investigation. At first consideration of this view I was loath to believe that the parasite could gain entrance by passage through the skin, as it appeared to me more probable that it made entrance through drinking water. But after a careful observation and investigation of the habits of the larvæ and of the disease itself as it exists, I was forced to the opinion that in the great majority of cases they gain entrance through the skin of the feet, and that the true ground itch is simply the manifestation of this passage. There is no doubt that some cases may be produced through drinking water, but my observations of the development of the larvæ and the conditions surrounding the disease have led me to believe that this is the exception and not the rule. That infection could take place through dirt on the hands and then taken into the mouth I am also inclined to believe is the exception, even more so than infection through drinking water, for it is likely that the larvæ would become destroyed by drying before they would be taken into the mouth.

Ground itch is the most common disease in the South, and the majority of cases are never carried to the physician, but are treated with home remedies. It appears in the summer and always as a result of going barefoot in wet weather. In many sections in the South it is thought to be the result of being poisoned by the dew, but it is always contracted at the time when the ground is damp, which is the condition most favorable to the development of the larvæ of the uncinaria. In some districts they take great pains to try to keep the children indoors during rainy weather, and especially when it rains several days, so as to prevent them from having this ground itch. One patient told me that he was fond of wading in ditches after a rain, and he was sure that the foam which collected along the sides of the ditches contained the "poison," as he always had an attack from wading in that foam.

The first symptom of ground itch is an itching between the toes, which begins after going barefoot in the mud. It may appear at one place between two toes, or it may appear between all of the toes, and also under them, and in some cases may extend up some distance on the foot. This itching increases and the skin becomes very red, and finally small vesicles are formed. The itching continues and these vesicles are usually ruptured, leaving a raw weeping surface. The itching is generally excruciating, and the condition may last two, three, four or more weeks.

The following is some of the evidence in favor of the ground itch being the method of entrance into the human body of the larvæ:

Every person who has had true ground itch within seven or eight years will have the eggs of the parasite

Case 1.—17 years of age. Case 2.—15 years of age.
These two are brothers. Examination of stools showed a great number of eggs of uncinaria in stools of No. 1, and comparatively few in stools of No. 2. This illustrates the lack of development in the extreme type of uncinariasis. No. 1 is two years older than No. 2, yet presented the appearance of a boy of 12 years, with no development of sexual organs. No. 1 is unable to do any work. While No. 2 is apparently as vigorous as other boys.

in their stools. This time limit is not positive as yet, but the evidence points strongly to a limit of about seven years.

You can form a fair estimate of the number of eggs that you will find in the stools by taking a careful history of the severity and extent of the number of attacks of ground itch. For example, if a patient gives a history of having had a number of attacks of ground itch which involved all of the toes and possibly a portion of the feet, you will find a great number of eggs in the stools of that patient. In the last postmortem in which I found the uncinaria in the intestines, I saw the patient

just two days before her death, and in getting her history learned that she had had an attack of ground itch about four or five years previously, but she informed me that she did not have it very bad, as it existed only in one place between two toes. A careful search at the postmortem examination disclosed only seven of the worms. I have seen only two cases of the disease which did not give a history of having had ground itch within seven years. They were two dental students who lived at the same place in Florida, and they were both sure that they had not had ground itch for fourteen or fifteen years. However, their drinking water was obtained from wells only three or four feet deep and which overflowed every time it rained. These were probably infected through drinking water, but in both cases the infection was very slight, as it required careful search to find the eggs in the stools, as they were so very few in number.

Case 3.—White; male; age 17. Skin resembles yellow parchment; mucous membranes blanched; appetite poor; sleeps fairly well; has severe griping of bowels at times; badly constipated. Red corpuscles, 1,672,000; hemoglobin, 22 per cent. Notice lack of development of sexual organs. Has had "ground-itch" so many times that can not recall any year that he did not have it. Stools contain eggs of uncinaria in great numbers. Barely able to get about, and unable to do any work.

Many of the cases of the disease were suspected and located only on finding a history of having had ground itch within seven years. One was a medical student from the mountains of South Carolina, who presented a picture of perfect health, with a ruddy complexion, and who did not suspect that he had uncinariasis until he overheard a conversation about the relation of ground itch to the disease. He then came to me and told me that he had had a severe attack of ground itch about five or six years before, and on examination of his stools I found numerous eggs of the uncinaria. Examination of his blood showed: red corpuscles, 4,120,000, and hemoglobin, 95 per cent. After two doses of thymol of one gram each, eighteen uncinaria were found in his stools and no eggs were found a week later. It usually requires several attacks of ground itch, extending over a period of several summers, for sufficient numbers of the larvæ to get into the system to produce the extreme type of the disease.

A careful examination was made of all the members of a family of eight who had lived under the same conditions, drinking the same water, etc., and this showed that those who had been keeping the feet protected for over eight years by wearing shoes, and who had not had ground itch during that time, did not have the eggs in their stools, while all who had had ground itch within that time had the eggs in quantities in direct proportion to the number and severity of the attacks of ground itch.

You may take the history of some of the cases which have at one time been in the extreme stage, and you will find that they had attacks of ground itch year after year, or probably skipping a year now and then, and they would get worse from year to year until they had had attacks covering a period of seven years or more, and

Case 4.—White; male; age 7. Skin yellowish-white; mucous membranes blanched; appetite poor and perverted; bowels constipated; shortness of breath; loud hemic murmur; can not walk over 200 yards at a time; headache and vomiting every morning; stools contain an abundance of eggs of uncinaria. Red corpuscles, 1,208,000; hemoglobin, 10 per cent. Has had "ground-itch" every year since able to walk. Has had whooping cough, but no other sickness.

probably they were old enough by that time to begin wearing shoes in the summer time, and, therefore, those parasites which first gained entrance into the body would have passed through their allotted period of existence and would die out, and by the patient wearing shoes, additional larvæ would fail to get into the body, and as each following year more and more of the uncinaria would die out, the patient will give a history of gradual improvement, and his body will begin to take on a vigorous development. There is no difficulty in finding plenty of these cases which give a history of having once been extremely pale and anemic, but have "outgrown" it.

The disease gradually disappears after they stop going barefoot.

The number of the uncinaria in the intestines varies from a few to several hundred. The number is nearly always in direct proportion to the number and severity of attacks of ground itch. A few of the uncinaria may produce no apparent effect on the patient, but it no doubt renders the patient more susceptible to infection as a result of the interference with the nutrition. Severe infections produce various grades of anemia. The blood counts show all stages; some being so severe as to produce dizziness, hemic murmurs and the weakness which accompanies such conditions. These extreme cases are usually emaciated, but the emaciation may not be apparent at first on account of edema. In the extreme cases the skin is of a yellowish-white parchment color, and over the exposed portions of the body, as the cheeks and hands, it appears to be much thickened. The mucous membrane also presents a yellowish-white blanched appearance, and examination of the blood often shows the red corpuscles as low as 1,100,000, and the hemoglobin down to 10 and 15 per cent. If this severe condition is reached about the time of puberty, the sexual development does not take place, and it is not uncommon to see boys 17 and 18 years of age who are dwarfed and whose genital organs have the same appearance as those of a boy about 10 years of age. Also, you will find girls 18 years of age in whom there has never been any effort at menstruation, and who present no evidence of development into womanhood. We must remember that these are the extreme cases. They are the ones which give a history of numerous and severe attacks of ground itch, usually having it for a number of years, and members of the same family who are living under exactly the same conditions, but who have not had so many, nor such severe, attacks of ground itch will have only a small number of parasites in their intestines, and practically no interference with their development.

It is a most pitiable sight to see these severe cases in bright children who are unable to walk 200 yards without being almost completely exhausted and who have to sit down and rest before they can go further. They are unable to play the games with other children, but must drag out their lives sitting and lying around, watching the other children in their games and yearning for the strength to join in with them. Sometimes they succumb to additional infection of the uncinaria, or to attacks of other diseases.

In their earnest desire to be cured and become strong like other children, they are willing to undergo any treatment which will offer any chance of doing them good, and often you will find that they have made the rounds of all physicians in their district, but to no avail. I recall the case of one poor boy who was barely able to drag himself about, and on being told that there was a chance of something being done for him, he arose early in the morning only to find that the rain was pouring in torrents, but, nothing daunted, he dragged himself all alone three miles through the pouring rain to the physician's office, drenched to the skin and shivering with cold, but willing and anxious to begin at once with any treatment that offered any chance of doing him good. That was only three weeks ago, and since then his improvement has been remarkable, as he is now at work again on the farm.

Every country practitioner in the South has more or less of these cases of anemia in his practice, and sometimes they will improve slightly with prescriptions of iron, arsenic, etc., but with no permanent results.

The poor farmers throughout the country who have a house full of children to support are dependent to a great extent on the assistance of these children to make sufficient for their maintenance, and when the children are affected with this disease and are unable to assist him to any extent, but rather instead are a burden to him to pay their physician's bills and supply medicine—these are the ones who often seek the cotton mill, where most of the children, although dwarfed and stunted and incapable of severe exertion, yet have sufficient strength to sit at a loom and do light work about the mills. While it is deplorable that child labor is not better controlled, and, while I believe in giving the devil his dues, yet we should, at the same time, be just, for no doubt many of the cases of children whose lives are supposed to be blighted in the cotton mills, were blighted before they went there, and the confinement and tedious work is but assisting in the work of destruction already begun.

We read our statistics of the destruction wrought by the dreaded tuberculosis and pneumonia, etc., but we have here a disease which is literally sapping the life-blood of the South. But, unlike tuberculosis and pneumonia, etc., we have for this terrible disease an easy means of diagnosis, and a cure which is simple and certain. All that is necessary is for the physicians throughout the country to become familiar with the diagnosis and treatment.

Before treatment is instituted, a positive diagnosis can only be made by the examination of the stools for the eggs, and one experienced in examining these stools with the microscope can get a better idea of the number of parasites in the intestines than from the symptoms of the patient.

The treatment is very simple, but to be thoroughly effective certain precautions should be observed. Two doses of thymol finely powdered of one or two grams each are to be given about two hours apart. The first dose should be preceded several hours by a dose of some purgative, and followed by the same. One very important point is that no food must be taken into the stomach from the time of the first dose of the purgative until after the second is taken. The plan is as follows: A large dose of salts is given at night and the next morning at 8 o'clock two grams of *finely powdered* thymol is given, and two hours later a second dose of two grams, and two hours after this a large dose of salts is given. I lay stress on having the thymol finely powdered and no food being taken into the stomach between the administration of the purgatives. In some instances this treatment is not thoroughly effective, and a microscopic examination of the stools should always be made about a week later, and if eggs are still present, the treatment should be repeated.

In the postmortem examinations of the human intestines containing the uncinaria, I have noticed that the parasite is not so firmly attached to the intestinal mucous membrane, and also that it does not seem to lacerate the mucous membrane, or leave the white central spot with the hemorrhagic area surrounding it, as described of the old world parasite, and also of the parasite in the dog. We can readily understand this when we bear in mind the structure of the oral cavity of the uncinaria, as given by Dr. Stiles, showing that it does not have the little hooklets which are found in the old world parasite and the dog in this country, and, therefore, does not become so firmly attached or so severely lacerate the mucous membrane.

The prophylaxis of this disease is very simple. It is not necessary to boil the water for drinking purposes,

unless the water has been contaminated by surface drainage after a rain. If every person will wear shoes which thoroughly protect the feet in rainy weather or in damp places, there is very little chance of infection.

To determine whether the parasite which infects the dog in my section would exist in the human body, I administered successive doses of the larvæ of this parasite to a negro boy 19 years of age (of course, with his consent), beginning the first dose July 11, 1902, when the larvæ were four days old, and continuing about every two weeks until October 14, using larvæ from the original culture made July 7. The patient disappeared October 14, but examinations of stools two days before that were negative.

In making these investigations, I was much indebted to Dr. S. H. Green of Bolton, Ga., and Dr. C. D. Redding of Warthen, Ga.; also to Drs. J. A. Randall, W. E. Persons, C. D. Jeffries, O. T. White and W. A. Selman, of the resident staff of Grady Hospital.

DISCUSSION.

DR. H. B. WARD, Lincoln, Neb.—Dr. Smith has gone further than any other investigator with reference to the life history. It is of the utmost importance that the method of introduction into the body should be known, as well as the interval between the various stages of development. Dr. Smith has investigated the relation between ankylostomiasis and ground itch so thoroughly as to leave little doubt as to their probable connection. I think the probability is very strong indeed. One of the latest investigators records the fact recently in one of the German journals that he has succeeded in infecting the skin with the larvæ. The larvæ were placed on a member which was about to be amputated. When the skin was sectioned after the amputation the larvæ were found to be penetrating the skin along the line of the hair follicles, and they could be made out in the sections. Some had gone in as far as the subdermal tissue. I think that is the first instance where the entrance of the larvæ has been thoroughly established.

Another point deserves brief mention. The experiments of Looss on dogs shows conclusively to my mind that the infection can not be contracted through drinking water. Where the dogs were fed on infected water the larvæ passed through the canal, except a few which bored into the wall of the esophagus and went down into the tissue, where he got the three stages of development. Those which traversed the canal did not attain the adult condition, but those which got into the tissues attained at least the later larval stage.

I presume Dr. Smith has already thought of it, but it would seem to me that in the region where ground itch prevails he might succeed in some postmortem in getting a portion of the tissue from one who had been recently infected with ground itch, and sections made from this would throw light on the subject.

DR. CLAUDE A. SMITH, Atlanta, Ga.—I recognize the fact that the results so far are somewhat incomplete, and that we have not been able yet to obtain positive proof as to the transmission of the disease. Experiments are being still carried on, from which we hope to obtain more satisfactory results. Until then it can not be stated positively that the infection does get into the system through the feet, but from the evidence of cases I have seen I feel positive that this is so.

As to the question of postmortem of subjects who have had ground itch, it must be remembered that these cases are nearly all in the country, and you know how difficult it is to get permission to hold a postmortem in the country, especially in the case of children. They even object sometimes to examination of the stools.

I hope in the near future to be able to present the proof of the transmission of the disease.

To Remove Plaster-of-Paris Bandages.—Acetic acid brushed in a little over the bandage will render it soft, and in a few minutes it may be cut with an ordinary knife.—*Applied Med.*

OCCURRENCE OF THE STRONGYLOIDES INTESTINALIS IN THE UNITED STATES.

MARSHALL LANGTON PRICE, M.D.
BALTIMORE.

(*Concluded from page 655.*)

RHABDITIFORM EMBRYOS.

As the parasite occurs in the stools as the rhabditiform embryo, and probably never in any form (excepting rarely after a purge, when the passage of the parthenogenetic mother worm has been reported by one or two observers), it follows that the thorough understanding of this form is most essential to diagnosis; and I have, therefore, described it below at some length.

In a properly prepared specimen the embryo appears as a clear, almost hyaline, nematode, completely transparent and possessed of a very active motility, swimming among the granular detritus, and pushing aside the smaller obstacles in its path, and turning aside to pass the larger ones, when its progress is arrested by an obstacle of considerable size. The consistency of the nematode seems scarcely to exceed that of protoplasm, the parasite quivering like jelly with every movement, or when the microscopic stage was jarred or shaken. It appears to possess a considerable degree of irritability, and when aggregated masses of bacteria would lodge against its side, motions of the tail would be produced toward the offending object.

The structure appears granular. The parasite, on examination, is seen to consist of two portions, an outer clear portion or envelope, and an inner granular zone. The outer portion, forming about one-tenth of the transverse diameter of the parasite, is clear and homogeneous, with the exception of a few fine granules. The inner portion is markedly granular and is well organized.

With the death of the parasite the clear homogeneous structure is lost, the granules become larger and coarser and invade the outer envelope. Finally the whole parasite becomes uniformly granular and shrunken, its transparency is largely lost, and all distinction between the envelope and inner granular zone disappears. The parasite appears to undergo a rapidly granular degeneration as soon as dead.

The length of the nematode varies. The average is probably about 0.3 mm., the breadth 0.04 mm. The head is blunt and slightly conical in shape, and contains the anterior portion of the digestive canal. The body gradually enlarges from the head to its middle part, and then gradually diminishes in size to the thick and somewhat pointed tail. The head is largely occupied by the triangular or fusiform darker area of cells surrounding the digestive canal which passes from the cephalic extremity backward. This darker area becomes constricted as soon as the neck is reached, and after running for a variable distance in a uniform size, again expands into an ovoid or spherical area; leaving this, the canal again passes toward the caudal extremity. A slight fusiform dilatation occurs at about the middle of the body, the canal then passes on in its normal size until it reaches the base of the tail, where a saccular dilatation appears. This appearance, which has not been previously described, can be demonstrated in the majority of specimens by careful examination, and no specimen in which the parasites were numerous failed to show one or more in which this structure was evident. The intestine, much diminished in caliber, turns abruptly after leaving this inferior dilatation and passes to the side of the animal, where it terminates in a slight mammilliform projection. Just below the middle of the body, the in-

testine was pushed somewhat to one side by a large oval body, quite refractile and containing rather large granules. This represents the undifferentiated sexual gland. The intestinal contents are plainly visible in the intestinal canal and consist of fluid containing numerous small particles in suspension. Among these can be seen dead bacteria and portions of bacteria and the ordinary granular detritus found in the stools. The motion of the parasite aids the passage of the intestinal contents toward the caudal extremity, but peristalsis has been provided for in another way, to be later described. The motion of the parasite is constant and never ceases, except momentarily; the motion, indeed, seems necessary to the life of the parasite, and when it ceases the parasite soon shrinks and undergoes the granular degeneration already described. The motion of the parasite apparently acts in somewhat the same manner as the cardiovascular system in higher animals in promoting the interchange of the tissue juices.

The minute structure of the digestive system shows many interesting details. The canal begins, in many specimens, in a procephalic projection, which has a cup-shaped depression on its anterior end. The digestive canal passes through this portion, which is transparent and non-granular, and not being especially refractile, is difficult to demonstrate in all specimens. The canal, passing into the head, enters the anterior esophageal expansion, which consists of stratified squamous cells with oval or flattened nuclei. It then passes toward the tail until it reaches the second globular expansion, where it is suddenly lost, plunging, in fact, into the center of this mass. This globular mass is made up of large secreting cells containing fine granules, and a large centrally-placed nucleus. This organ appears analogous to a stomach, and probably furnishes the digestive juices. In the center appears a round, clear area, which is the cavity of the organ showing through the cell mass. It is in this situation that the tridentate chitinous armature described by certain authors makes its appearance. I have never been able to demonstrate any opening in this situation, and have never observed the ingestion or excretion of any of the intestinal contents by means of it. The appearance is like that of the small Greek letter gamma. (The upper limb appears to be formed by the intestinal canal showing through the cells, and the two lower limbs by the interval between two of the large secreting cells, whose angle corresponds to the angle of refraction of the parasite.) As soon as this secreting organ becomes continuous with the intestinal canal (as occurs in the filariform embryo) this appearance at once is lost. About the middle of the body the canal enlarges slightly and extends some distance downward before it again contracts. This portion of the canal is lined by distinct columnar cells with dark nuclei; this appears in analogy with the secreting organ to be the absorptive portion of the parasite.

The digestive canal may at times be seen to suddenly contract longitudinally. The result of this is that a portion of the canal becomes convoluted or S-shaped, and its lumen in this portion becomes narrowed, or even obliterated; acting in this way as an adjunct to the more constant peristalsis produced by the movements of the animal. The effect of the globular dilatation seen at the caudal extremity is presumably to delay the intestinal contents until they can be effectually acted on by the tissue juices.

MORPHOLOGIC VARIATIONS OF RHABDITIFORM EMBRYOS.

The variations of form of the *Strongyloides intestinalis* do not end with the four distinct types mentioned, but the embryonic forms, especially, show a number of other morphologic variations. It is important to realize this fact, as these variations may otherwise be mistaken for different species. Between the two widely varying types of embryos, viz., the filariform and rhabditiform, are found many intermediate forms. The youngest form of embryo is short and thick, the older specimens become longer and thinner, and in the shape of their bodies come to resemble the filariform type. The line of demarcation is, however, distinct between the two types in the structure of their internal organs. In one specimen observed both the filariform and rhabditiform embryos were found in the same specimen with others that in the shape of the body resembled the filariform, but were rhabditiform embryos. No marked variations occur in the filariform type, but variations in the rhabditiform embryos were frequent and occasionally marked.

In some of the embryos the intestinal canal was convoluted throughout. This occurred probably in less than 1 per cent. of the embryos observed, but in a single specimen examined two such were found. The esophagus showed a number of variations. Normally, the first esophageal enlargement was separated from the second by a considerable interval, the two portions being connected by the intermediate intestine. In one specimen, however, the interval was absent, the second expansion appearing at the lower end of the first. In this, as in a few other examples, the cephalic portion of the esophagus showed a double expansion.

In a few instances the embryos presented dark transverse striæ, alternating with lighter areas, the appearance being somewhat like that of voluntary muscle fiber. In these specimens the intestinal canal is usually convoluted, and along the outer and inner borders of the parasite appeared—corresponding to the origin of the dark bands—indentations, which became marked along the inner border when the parasite coiled.

It is probably an appearance similar to this which Strong describes as two longitudinal rows of muscle plates placed along either side of the central canal of the older rhabditiform embryos.

FILARIFORM EMBRYO.

The filariform embryo is about double the length of the younger rhabditiform variety; the capsule or ectodermic layer is thinner and more distinctly outlined than in the rhabditiform variety, and is more perfectly hyaline, containing only a few scattered granules. The inner granular portion is uniform in width. The two expansions seen toward the cephalic end of the rhabditiform embryo have disappeared; the oval sexual gland can not be distinguished; the inner portion is made up of round refractive granules like those of the rhabditiform variety, but larger in size; the intestinal canal ends relatively nearer the tail. The parasite moves very rapidly with a graceful undulatory motion.

CLINICAL HISTORY OF THE DISEASE: ETIOLOGY.

The etiologic factors other than the parasite have not been as yet thoroughly studied. Infection usually takes place by the mouth. It is probable that the parasite is usually introduced in this way as the filariform embryo. Leichtenstern caused infection experimentally in this way by administering filariform embryos to a human subject. Infection has been produced in animals by administering the eggs. The vehicle by which the parasites enter the system is frequently, no doubt, drinking water, but this does not appear to be the only means. Normand during his stay in China drank only water imported from Europe in order to avoid infection, yet he suffered

from a rather severe attack. Fresh vegetables, he thinks, may be a means of conveyance of infection, owing to the Chinese method of fertilization of land by human manure. Probably domestic fowls have a great deal to do with spreading infection, no doubt, through the mediation of fresh vegetables. Fowls are more susceptible to this disease than man, and the infection passes readily from man to animal, and may pass with equal facility from animal to man. Infection through the skin has been demonstrated in rabbits recently under Dr. Stile's supervision. For human infection the infective material must be of comparatively recent origin, as the parasite does not survive long external to the body, even under the most favorable circumstances. The influence of sex in this disease has not been carefully studied. All of the cases which have come under my knowledge in this country have occurred in men. The occurrence of other diseases and of local disturbances of function in the intestine seem to influence, if not the actual infection, at least the manifestation of its results. The frequency with which the disease is associated with uncinariasis, with amebic dysentery, and with other diseases, seems to be more than a coincidence. Climate influences, as already stated, both the frequency of infection and the severity of its results. The more severe forms of the disease are infrequent in temperate countries.

PATHOLOGY.

The pathology of the parasite is mainly taken from Thayer's fatal case and from Strong's later studies. The changes found in the intestine are sufficient to refute the views of those observers who claim that the parasite is innocent to man. The possible ways in which the parasite may produce harm are numerous. Calmette's supposition that the parasite may give rise to substances acting as chemical irritants assumes some probability in the occurrence of a small round-celled infiltration about the ova and parasites, in the crypts of Lieberkuhn. The reflex effects may be a most important pathogenic element; certainly the constant intestinal indigestion, with its attending diarrhea and malnutrition, can not be easily explained by the small amount of inflammation present. The sudden involuntary passages are certainly a reflex nervous phenomenon. We already recognize that the presence of *Oxyuris vermicularis* in the mucous membrane of the rectum is capable of producing in children many reflex disturbances, and it seems reasonable to suppose that the presence of a like irritant in the duodenum and jejunum can produce even more profound effects. Possibly some of the nervous phenomena observed by Sylvestri, such as vertigo, weakness and gastric disturbance occurring in connection with this parasite, may have been of reflex origin.

From Case 1 of Thayer's series Strong prepared sections of the intestine from which he was able to show the injurious influence of the parasite in the intestine. The microscopic appearances were both interesting and instructive. Both embryos, mother worms and eggs were found in the crypts of Lieberkuhn; no eosinophilia was observed about the eggs containing the crypts, but there was present a small round-celled infiltration and karyokinetic figures were observed in the surrounding epithelial cell. The following is a detailed description of the sections prepared by Strong:

Section 1.—Many eggs in various stages of segmentation, some containing embryos, seen generally lying in the bottom of the crypts of Lieberkuhn. In these crypts the epithelium is much compressed and often atrophied. The nucleus lies at the base of the cells, and about it no cell substance can be distinguished, as a rule. Some contain two eggs, and in such cases the epithelial cells seem markedly compressed and atrophied. About the crypts which contain eggs, particularly when they contain eggs which are segmenting or containing embryos not yet hatched, there are a few round cells about the crypt . . . In several sections where the egg has burst and the embryo escaped the epithelium of one side of the crypt has disappeared. About the crypt there is some proliferation, as is indicated by the karyokinetic figures seen in the nuclei of the surrounding epithelial cells . . . the underlying solitary follicles are somewhat swollen. In other crypts the egg rests on the basement membrane of the gland, the epithelium having (apparently) disappeared.

Not infrequently what appears (in transverse sections) to be small cysts are seen lying in the walls of the crypt, resting on the basement membrane. Apparently the eggs have disappeared from the crypts, leaving clear areas. There is no apparent infiltration with round cells about these so-called cysts.

Section 2.—Pieces of the adult female cut longitudinally and transversely. Not infrequently portions of the female containing the vulva may be seen just penetrating into the lumen of the crypts, while others are lying longitudinally or cut transversely in the bottom of the crypt. Occasionally slight round-celled infiltration is noted at the bottom of the crypts containing parasites, and the solitary follicles are slightly swollen. . . .

Section 3.—Many of the crypts contain embryos. In these crypts there is generally flattening and atrophy of the epithelial cells . . . the embryos appear to compress the epithelium . . . mitotic figures and small round cells are seen without the crypt. In several sections embryos are apparently bursting out of the crypt and have desquamated epithelial cells lying about them. One section shows an embryo beneath the epithelium of the villus.

Teissier, in 1895, reported a remarkable case, in which the embryos of the *Strongyloides intestinalis* apparently appeared in both the blood and stools. On account of certain differences in his description of the parasite, and in the observations which he made on it, Thayer concludes that he was dealing with a parasite distinct from the strongyloides group. These differences were mainly as follows: (*a*) The finding of sexually differentiated forms in the fresh dejecta, as well as in culture specimens. (*b*) No internal structure could be demonstrated in the embryonic forms seen in the blood and the smaller forms found in the stools. (*c*) But one spicula was noted in the male form.

In addition to these differences, Teissier, in inoculating experiments on frogs, succeeded in producing metastatic foci in the intestine and lungs, which latter contained giant forms.

After discussing these differences, Thayer advances the supposition that the form of parasite with which Teissier was dealing was the *Ascaris nigrovenosa*, which corresponds closely to Teissier's description, especially in the occurrence of giant forms in frogs.

SYMPTOMS.

The symptoms are those of a more or less continuous diarrhea, characterized by periods of remission, which sometimes exceed one or more weeks' duration. The onset is gradual, and it is some days, or even weeks, before the diarrhea is fully established. The presence of the parasite may be attended by no symptoms for an indefinite period, and none may ever present themselves. As the diarrhea becomes fully established, the evidences of intestinal indigestion appear; certain articles of food will not be digested or absorbed in the intestinal canal. Reflex gastric disturbances may occur; there is occasional heaviness and eructations and slight nausea; vomiting occurs as a symptom in some cases; usually only the severer ones. During the height of the attack the move-

ments increase from twelve to fifteen, or twenty-five per day.

A striking characteristic of the diarrhea is the absence of pain, tenesmus, or any violent depression, such as occurs in other intestinal diseases attended by frequent and copious discharges. Mucus occasionally occurs in the stools, but is always small in amount; in a few cases a trace of blood is present at the onset. The diarrhea may suddenly assume a dysenteric or choleriform character, with purging, vomiting, cyanosis and collapse. This is in many instances due to the concurrent dysentery, to which persons suffering from this disease have a marked predisposition.

Another striking feature is the absence of any elevation of temperature in uncomplicated cases. With the onset of intercurrent disease, and with advanced malnutrition, an elevation of temperature may be present, but with patients otherwise healthy the temperature curve remains uniform during the most severe attacks. In the case observed in the University Hospital the temperature curve showed remarkably few fluctuations, never rising above 99 F. during the patient's stay of nearly six weeks in the hospital. On several occasions of acute exacerbation where the bowel movements exceeded fifteen daily, the temperature did not rise one-half of a degree.

Owing to the intestinal indigestion and consequent malassimilation, there is progressive loss of weight during the acute periods; sweating is an occasional symptom, and a slight reflex cough is occasionally noted. In severe cases emaciation is advanced, there is great debility and weakness, and an intercurrent dysentery or other acute disease proves fatal. A striking and troublesome symptom not infrequently observed is incontinence of the bowel; this occurs most often during the night, but may occur suddenly in the day time. The desire to evacuate the bowels is sudden and almost irresistible. The tongue is usually clean and moist and the breath free from odor; there is no pain in the stomach, but occasionally some intestinal griping. The appetite is apt to be good, except in severe cases accompanied by nausea. The skin and eyes are usually clear, though the latter are occasionally subicteroid. Nervous symptoms are infrequent, but have been reported in a few cases. The symptoms observed were dizziness and vertigo with loss of appetite, weakness and slight nausea.

The blood changes are not usually marked; slight anemia is present, never approaching the degree observed in ankylostomiasis. Eosinophilia is probably not a symptom of uncomplicated cases; there is no leucocytosis. The stools present the ordinary appearance of intestinal indigestion, and contain undigested food. On microscopic examination there are present starch, granules and oil globules, together with pus, epithelial and red blood cells. After the disease is established the stools do not regain their normal consistence, but vary from a pasty to a fluid state. As would naturally be supposed, indigestible articles increase the diarrhea; corn especially, and occasionally beer, appear to excite a relapse.

DIAGNOSIS.

Diagnosis depends on examination of stools. The clinical features, however, are very suggestive; the occurrence of considerable intervals of remission, during which the patient largely regains his previous health, the absence of pain or any elevation of temperature, and the absence of blood or mucus in the stools in appreciable amounts, are all symptoms individual to this disease. Incontinence of the bowel, if present, is extremely characteristic. In practice, amebic dysentery will be most frequently confused with this disease, as they also run a very intermittent course, and the elevation of temperature may be slight or absent. An examination of the blood in these cases will at once clear up the diagnosis. The leucocytosis seen in amebic dysentery is absent in infections with the strongyloides, and it is not likely that other chronic diarrheas and dysenteries will be confused with this disease, by those who keep the features already mentioned in mind.

TREATMENT.

The treatment consists in light diet, rest and tonics, with occasional heavy doses of thymol or Felix mass, followed by a purge. The milder cases are easily controlled by treatment, the most severe difficult to influence in any way. While the patient may be relieved of nearly all unpleasant symptoms, the complete eradication of the parasite is a matter of some difficulty. I know of no case, at present, where this has been accomplished. No medication will cause the parthenogenetic mother worm to appear in the stool, and until this occurs treatment can not be considered successful.

After the patient has been relieved of his more acute symptoms by ordinary measures of rest and diet, thymol may be given on an empty stomach, preferably in the morning; 10 to 12 grains given in capsules every five minutes for an hour, and following this, a saline, watching carefully for any symptoms of depression or collapse induced by the thymol; male fern may be used in place of thymol, given in a dram dose, followed one hour later by another dram. Between the periods of more active medication tincture of ferric chlorid may be given as a tonic. Gin has also been recommended.

I wish to recommend at this time, on purely theoretical grounds, the adoption of a more radical procedure in the treatment of this disease. I think we are justified in these cases in endeavoring to effect a radical cure at the cost of considerable patience, or even risk to the patient. It is true that we can easily control the majority of cases met with in this country by appropriate treatment, but, aside from the danger to life, there are other considerations which we have to meet. The disease imposes considerable disability on patients suffering from it, and it falls especially hard on those who earn their living by manual labor, as the frequent discharges interfere with any continuous employment. Again, in debilitated persons, especially the tuberculous, there is considerable indirect risk of life. Intestinal malassimilation is always a serious feature in this disease, and may result in developing a case previously latent, or in converting the chronic into the acute form. I would advocate treatment along several experimental lines, having for their object to render the habitat of the parasite unfavorable to development. The parasite is not especially robust, and can be destroyed external to the body by trifling untoward circumstances.

The presence of air, a moderate temperature and the power of free motion in a fluid or semi-fluid nutritive medium is essential to the life of the parasite. A moderate degree of heat is sufficient to destroy it. In the endeavor to influence the parasite unfavorably we can first proceed along the lines of depriving the parasite of air; this we should be able to accomplish, practically, for several days without any unsurpassable difficulty. The method by which we should accomplish this will probably be by means of a primary purge, followed by doses of opium sufficiently heavy to arrest intestinal peristalsis. Rectal alimentation should be used during

this period to further guard against the entrance of air into the intestines. With the intestine empty and collapsed, and its walls in approximation, the small quantity of air remaining will soon be lost. In order to promote the absorption of any residual air, recently heated wood charcoal may be administered with the opium. An endeavor to destroy the parasite by heat may be combined with this method. The administration of very hot fluids continuously by mouth may be combined with the preceding method. The intestine is very tolerant of hot liquids, and the temperature required is not great. In order to avoid the discomfort incident to swallowing very hot liquids, they may be administered by a stomach tube combined with some agent to facilitate the rapid passage of the fluids into the duodenum. These two methods may be combined in a procedure such as given below:

After a twenty-four hours' fast the patient is given two drams mag. sulph. in two pints of very hot water, one drop of croton oil is added to insure prompt passage from the stomach. The solution of mag. sulph. may be repeated again in an hour without the croton oil. After the patient has been thoroughly purged, opium is given by the mouth, combined with powdered charcoal, after which it is administered by rectum as long as may be considered necessary. Arresting of all movements for a week should be all that is necessary in the usual case. At the end of the stated period the solution of mag. sulph. is administered in the same manner.

PROGNOSIS.

The prognosis of the disease has already been discussed under the treatment.

I wish in conclusion to express my thanks to Dr. Thayer and Dr. Strong for the use of previous reports on this subject, both of whom I have freely quoted, and from the former of whom I have largely modeled my report. Also to Dr. Atkinson for valuable advice and assistance in the case.

DISCUSSION.

DR. CHARLES WARDELL STILES, Washington, D. C.—This parasite of Cochin China diarrhea must be more common in this country than is commonly supposed. It is not only found about Baltimore, but four cases are reported from Washington and three cases from California. The life conditions necessary for this parasite are much the same as are necessary for the uncinaria. We can expect this nematode to correspond more or less generally to the geographic distribution of uncinaria.

With regard to the diagnosis, there are one or two pitfalls. We may find small worms and make the mistake of thinking that we have to deal with Cochin China diarrhea. Mistakes of this kind have been made by European and Asiatic physicians when they state that uncinaria runs through the same double cycle of development shown by strongyloides. Looss reported that he found in the feces rhabditiform embryos which were scarcely to be distinguished from the diarrhea worm. Various rhabditiform embryos are not uncommon in water and vinegar, but which have no connection with strongyloides, yet they may be found in the stools. If you wish to make a diagnosis of Cochin China diarrhea the simplest way is to find several rhabditiform worms in the feces; then a few of them should be raised to the free adult stage.

Another pitfall is likely to occur in the southeastern states. Occasionally the embryo of the American hookworm develops while the egg is still in the uterus of the female; and occasionally we may find in the feces of hookworm patients eggs with fully-developed rhabditiform embryos. If the egg shell is broken the rhabditiform embryos can then be distinguished from the strongyloides embryos only with difficulty and with the most careful examination.

Another pitfall is this: The pin worm (oxyuris) is viviparous, and here the embryos simulate the strongyloides embryos. In the tropics and in the Philippines strongyloides is a very common parasite, and we are likely to find cases of Cochin China diarrhea in almost any part of the country where we are dealing with soldiers who have served in the tropics. I do not know what treatment we are going to use. The results with thymol are not at all satisfactory.

DR. ALLEN J. SMITH, Galveston, Texas—This worm, I am satisfied, is a more common human parasite in the southern part of the United States than is at present realized. I have personally encountered examples of the embryo a number of times in the stools of patients from Galveston, but passed it by as a matter of interest rather than of importance, accepting in this idea the statements usually made in the text-books as to the rôle of this parasite in pathology. I must here (and I do so without hesitation) acknowledge that it was due to this mental attitude of mine that Dr. John T. Moore, Galveston, refrained from publishing an instance of the presence of the embryonic worms met in one of his patients a number of months ago, at a time when such publication would have ranked high in order of priority of record of the parasite in this country. I had seen the worms before; had not recognized in the cases presenting them any definite clinical features referable to these zoöparasites; was aware that the original idea that they were the cause of Cochin China diarrhea had been abandoned and that writers generally were agreed that they were of little or no importance in pathogenesis. Under this impression I spoke of the matter lightly when Dr. Moore brought to the laboratory of pathology in the University of Texas his specimens for identification; because of which Dr. Moore refrained from reporting the case until some months later, when his interest was again aroused by Dr. Thayer's excellent discussion of the same parasite in the *Journal of Experimental Medicine*. Since Dr. Moore's case two others have been brought to my notice from the wards of Sealy Hospital.

On such reasons I would base my confidence that the parasite is probably frequent in the southern tier of states of this country. In the cases which I have known the discovery of the worms has been in a general way accidental, and there has been nothing to make them seem of actual clinical importance. In one of these cases, however, at the time of the examination, there was a decided diarrhea, in which possibly the strongyloides may have had some influence; but the parasites persisted after the subsidence of the diarrhea—and aside from this individual circumstance I have had no reason to think of the anguillula as of any pathogenic significance.

DR. A. P. OHLMACHER, Gallipolis, Ohio—Some five months ago my interest in this subject was aroused by the discovery of *Strongyloides stercoralis* in an epileptic idiot, 16 years of age, one of the inmates of the Ohio Hospital for Epileptics. He was a native of Cleveland, Ohio, where he had lived at home until admitted to our institution, Jan. 7, 1902. There was no history of diarrhea before admission. His death occurred Nov. 23, 1902, from exhaustion. A diarrhea appeared three months previously, and three days before death the stools were blood-stained. He was confined in one of the closed wards. I examined the contents of the large intestine during the progress of the autopsy, finding the strongyloides; and subsequent search through the intestinal tract exhibited the worms from the pylorus to the anus. Both the adult female worm, eggs and developing embryos were found. My tentative diagnosis of strongyloides was confirmed by Dr. Chas. Wardell Stiles of Washington, who kindly examined some of the material from this case. This additional case, the first in the middle west of the United States, seems to emphasize the point made by Dr. Stiles and others in the present discussion—that the worm of Cochin China diarrhea is not a rare parasite in this country.

DR. J. T. MOORE, Galveston, Texas—My first case was discovered in August, 1901, the patient appearing at the outdoor clinic of the John Sealy Hospital complaining of severe diarrhea, with cramps in the abdomen. He was rather nervous and slightly anemic. He was a mulatto. He had served in

the Spanish war in Cuba. The stools were examined and the parasite of *Strongyloides intestinalis* was found. The specimen was submitted to Dr. Smith, who told me it was *Strongyloides intestinalis*. I remembered hearing of Dr. Thayer's case spoken of in Washington, I believe, at the American Congress of Physicians and Surgeons. Dr. Thayer kindly sent me a monograph of his cases. I reported my case to the medical society in June, 1902, and it is now in the hands of the American Medicine Publishing Company, the manuscript having been corrected. Recently I sent Dr. Price a synopsis of the case. I have now two other cases to be reported that I have since seen in the medical wards of Sealy Hospital. This parasite is, I believe, of common occurrence in Galveston and vicinity. I recently had another case under observation in which I saw both the rhabditiform and filariform parasites. I have never been able to secure the eggs of the strongyloides, although I have made cultures several times. I have seen many cases of uncinariasis.

THE SURGICAL TREATMENT OF UNDESCENDED TESTICLE.

A FURTHER CONTRIBUTION.*

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CHICAGO.

At the Columbus meeting of the American Medical Association I read, before the Section on Surgery and Anatomy, a paper entitled "Operation for Undescended Testicle and Congenital Inguinal Hernia," published in THE JOURNAL of the A. M. A., Sept. 23, 1899. Since that time I have had the opportunity of operating on a further series of cases, representing practically all the varieties of this malformation and have made some improvements, made necessary by difficulties occasionally met, which make operative reduction of the misplaced testicle possible in almost all cases; and places, I believe, the operation in a position where it should be accepted as a standard surgical procedure.

A further reason for again presenting this subject is the fact that a number of my colleagues have informed me that they have had difficulty in understanding and in carrying out the operation which I recommended, and I have felt that a series of plates illustrating the various steps of the procedure might make the matter clearer. The plates which I submit are sketches from life of the various steps of the operation.

I am inclined to believe that where an operator fails to succeed it will be due to the lack of that anatomic knowledge which he must possess to enable him to unravel the shortened structures, and at a stroke of the knife and in half an hour imitate the normal descent of the testicle. I regard the operation as one of the most interesting examples of applied anatomy.

It will not be necessary here to review the normal descent of the testicle. Figure 1 shows graphically this descent: A. The first position of the testicle below the kidney and behind the peritoneum. B. Passing through the canal. C. In the scrotum, with open vaginal process, so that the general peritoneal cavity and the future tunica vaginalis are still continuous. D. The vaginal process obliterated, the general peritoneal cavity shut off from the tunica vaginalis. There is one fact in connection with the descent of the testicle which is of importance in the operative reduction and which is generally not known or misunderstood, and that is that long before the testicle descends through the canal the vaginal process of peritoneum has preceded it, lying in front of the gubernaculum testis and reaching into the scrotum. The idea so prevalent among medical men that the testicle drags down a process of peritoneum in its descent

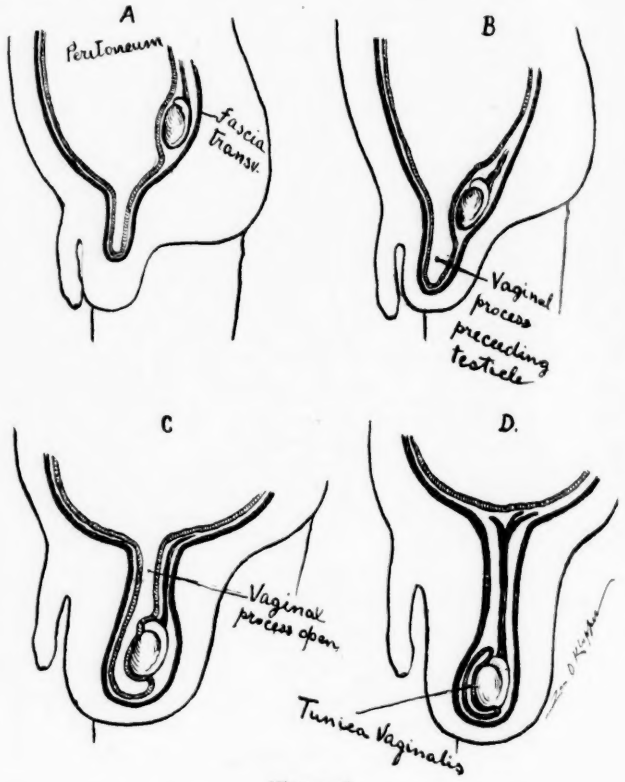


Figure 1.

is an error. I have found in all my cases, even where the testicle is well within the abdomen, a large sac of peritoneum, passing through the canal, occupying the space

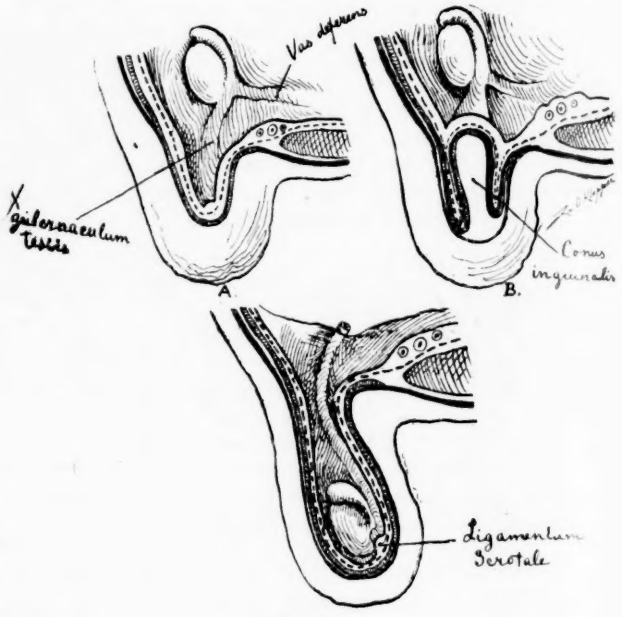


Figure 2.

in front of the external ring and passing down toward or into the scrotum.

Figure 2 shows graphically the descent of the testicle in three stages, and shows the process of peritoneum and the gubernaculum testis preceding the testicle in the scrotum.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

For clinical purposes, we may divide the malformations in connection with the descent of the testicle into:

1. Simple failure of the vaginal process to close, giving us the picture of congenital inguinal hernia, or at least a potential hernia.

2. Incomplete closure with such conditions as hydrocele of the cord.

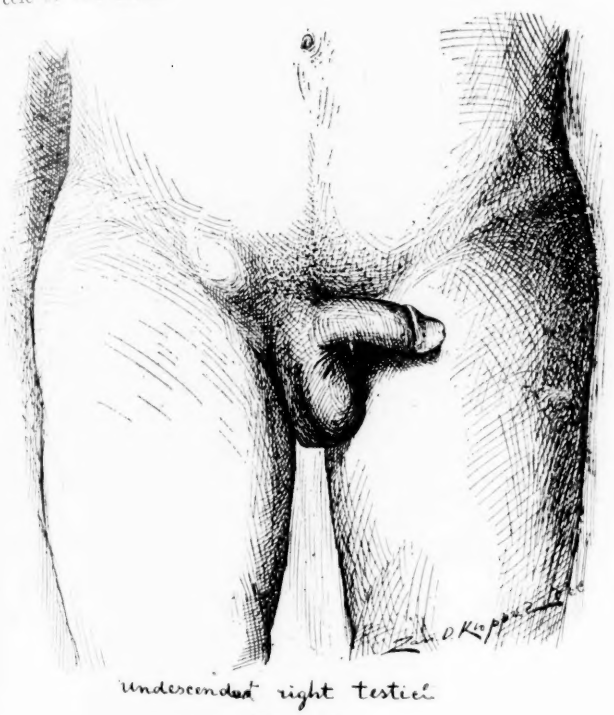


Figure 3.

3. Undescended testis which presents four types: (a) in the abdomen, in about its original position; (b) at the internal ring; (c) in the canal; (d) external to the external ring.

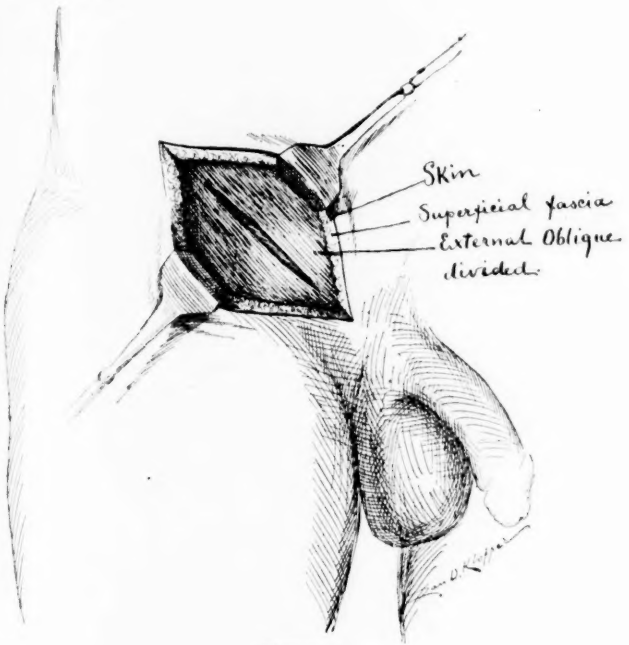


Figure 4.

4. Misplaced testicle. (a) in the perineum; (b) on the thigh below Poupart's ligament.

Undescended testicle occurs in at least 1 in 500, as shown by the statistics of the Austrian army, obtained from an examination of recruits. The malformation is a serious one, as it brings with it both mental and physical distress and it deserves more consideration from the medical profession than has been given to it. Even to-day almost no mention of the condition is made in our standard text-books on surgery, and the idea is generally prevalent among medical men that nothing can be done for the cure of the conditions, except removal of the testicle, if it causes trouble.

To-day, I believe the rule should be to operate and transplant to its normal position in the scrotum every

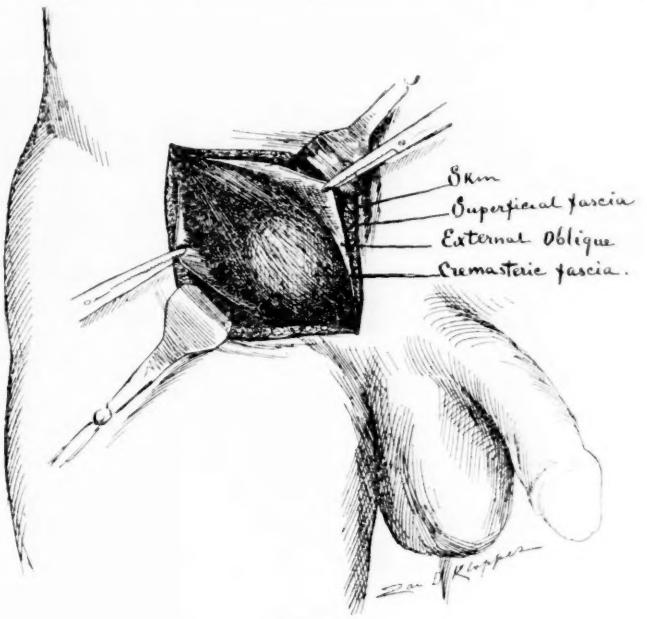


Figure 5.

undescended testicle which can be palpated. Those which can not be palpated should be operated on if they give rise to symptoms, or are complicated with hernia. Those which can not be palpated and do not give rise to

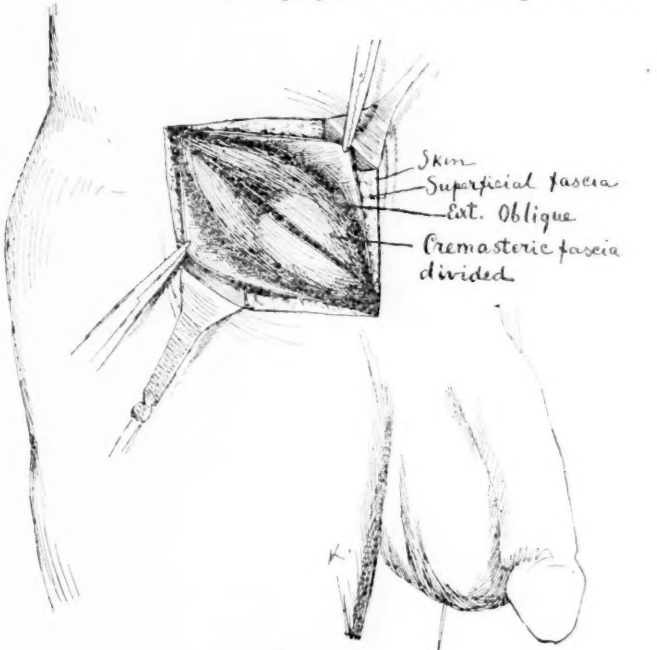


Figure 6.

physical distress, should be operated on and placed in the scrotum, if the malformation is the cause of mental distress to the patient. There are but few cases of undescended testicle where an operation is not indicated.

The dangers and discomforts of the condition of undescended testicle are much greater than those of the ordinary inguinal hernia and call more urgently for operative relief. These dangers are, briefly, (1) the actual or potential hernia which is always present; (2) greater liability to, and greater danger from, inflamma-

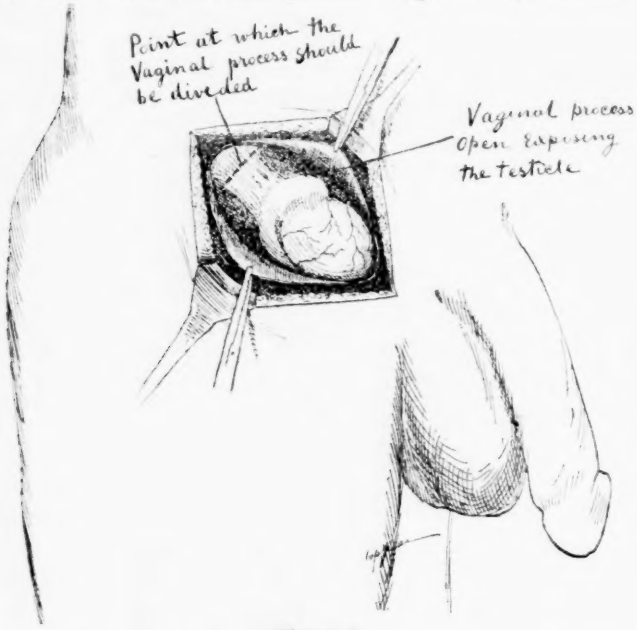


Figure 7.

tion of the testicle in its abnormal position; (3) injury to the organ from its exposed position, both external injury and injury from muscular contraction, such as coughing, lifting, etc.; (4) the greater danger of malignant degeneration (there can be little doubt that these

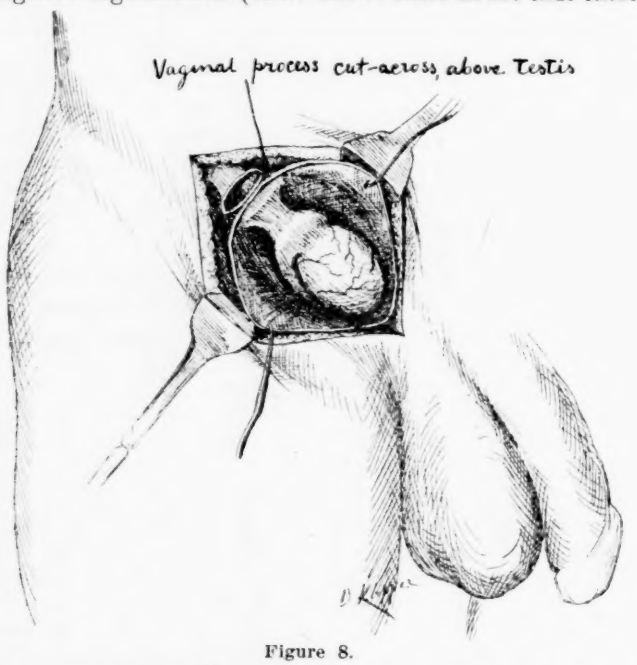


Figure 8.

undescended testicles are more often the seat of malignant disease than are normal testicles); (5) mental distress, due to the existence of the condition. This is an important factor in many cases. We do not hesitate to give our patients, suffering from hernia, the benefits of an operation for radical cure, and we should not refuse the cryptorchid the benefits of a surgical procedure, which, if properly performed, is as safe and as sure as a Bassini hernia operation and more urgently called for.

The first work of value in this line was done in 1881 by Max Schüller, and reported in this country in the *Annals of Anatomy and Surgery*. Schüller recognized the vaginal process of peritoneum as the chief factor which prevented the drawing of the testicle down into the scrotum and the factor which drew the testicle back

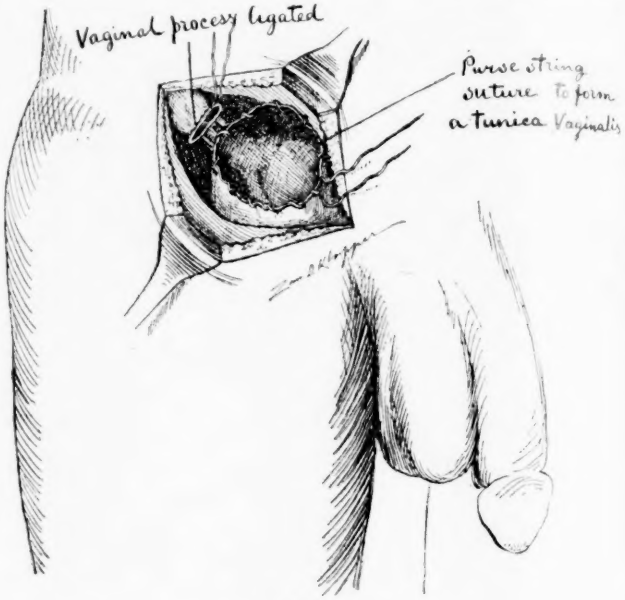


Figure 9.

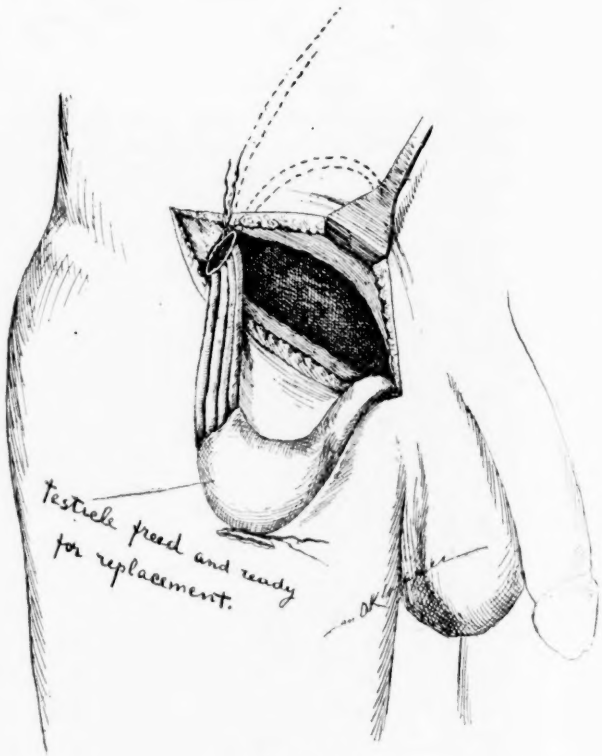


Figure 10.

into its old position, after operation. He advocated division of this vaginal process and stitching the testicle into the scrotum.

Schüller's work was a distinct step in advance, but his operation did not go far enough and has but a limited field. The operation which I have developed meets, I think, the indications better and has a much wider field of usefulness. I have developed the operation so that testicles well within the abdomen, which have never

been palpable, can be brought down and retained in the scrotum. Before describing the technic, which is the special purpose of this paper, I desire to say a word in regard to the age of selection. At what period of life, if we can choose, should these patients be operated on?

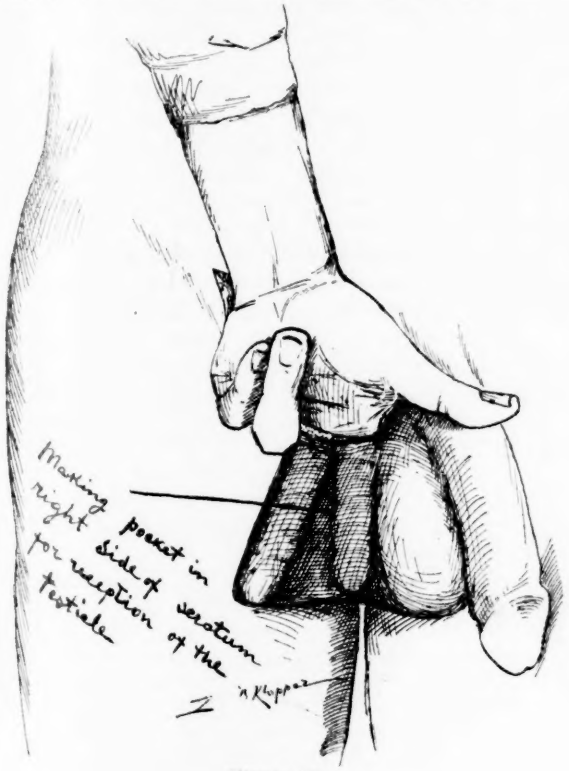


Figure 11.

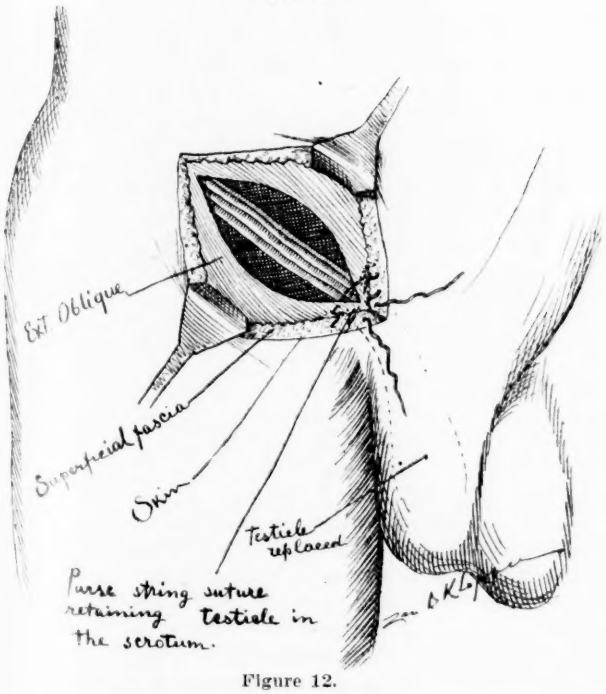


Figure 12.

In my first paper, I advocated waiting until after puberty, on the ground that some of these testicles descended during puberty and the malformation was cured sometimes even without an accompanying hernia. I have changed my opinion decidedly on this point, because I believe that this descent at puberty is a rare occurrence, at least, that it happens in but a small per cent. of the cases, and again, I believe that it would be far better to have the testicle in the scrotum when the changes incident to puberty take place. I now, therefore, advocate the performance of the operation before puberty, when possible, I think best, between 6 and 12 years of age.

DESCRIPTION OF THE OPERATION.

In operating on undescended testicle, when the organ is palpable, as in Figure 3, that is, in the canal or external to the external ring, the following technic should be pursued:

Make an incision three inches long over the canal. This should never involve the scrotum, or extend farther inward or downward than the external ring. This incision should divide skin and superficial fascia and the external oblique over the inguinal canal (Fig. 4).

The divided aponeurosis of the external oblique is drawn to each side and the cremasteric fascia is exposed (Fig. 5).

The cremasteric fascia and the thin underlying transversalis fascia is freely divided parallel with the canal (Fig. 6).

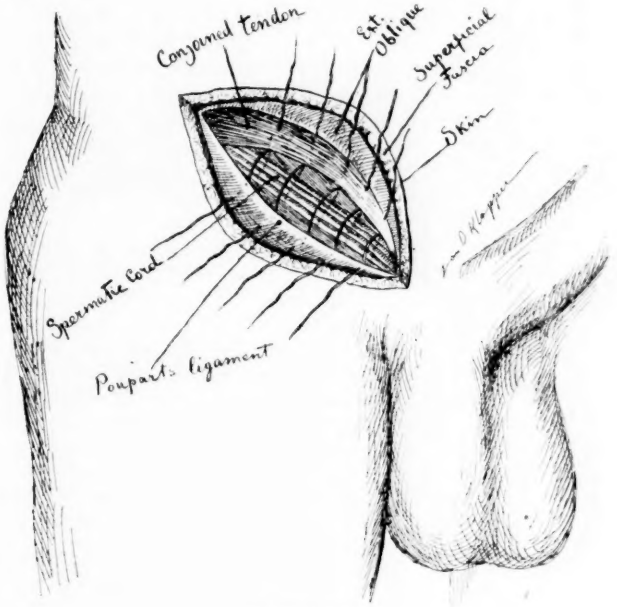


Figure 13.

This exposes the large peritoneal sac containing the testicle and continuous with the general peritoneal cavity. This sac is opened and the testicle exposed to view (Fig. 7). Frequently a projection of the omentum is found in the sac.

It is not necessary to make as large an opening into the sac as is shown in Figure 7. The peritoneum is then cut across at the point shown in Figure 7, and is carefully separated from the cord which lies beneath.

Figure 8 shows the vaginal process of peritoneum, cut across above the testicle. The vaginal process is then ligated, as in the neck of the hernia sac in a hernia operation, care being taken to ligate well up at the internal ring. That portion of the peritoneal sac in contact with the testicle is closed with a purse-string suture, and thus forms a tunica vaginalis for the testicle (Fig. 9). The testicle is now lifted out of its bed, and the cord is gently pulled on, so as to lengthen it as much as possible. In doing this, shortened bands of connective tissue will be seen as tense bands in the cord, and these should be torn across with tissue forceps. The cord should thus be stripped of all the surrounding fascia, leaving nothing but the vessels and the vas deferens. When this has been accomplished the spermatic vessels

and the vas, which lies behind the posterior layer of peritoneum of the abdominal cavity, should be separated from the peritoneum by careful blunt dissection, with the finger introduced into the abdominal cavity. The spermatic vessels will be found passing upward and inward, and the vas downward and inward from the internal ring, and this divergence can be plainly seen. The cord should be so lengthened by these maneuvers that the testicle can be layed on the thigh three or four inches below Poupart's ligament (Fig. 10).

With blunt dissection with the fingers, a large pocket should be made in the scrotum for the reception of the testicle (Fig. 11), and the testicle dropped into it, where it should remain without tension on the cord. A purse-string suture should now be placed at the neck of the scrotum to retain the testicle in position. This suture should pass through the superficial fascia and the external oblique on both sides of the incision; that is, both the internal and external pillars of the external ring, and above the cord. When this suture is tied, the testicle is securely retained in its scrotal pocket (Fig. 12). The incision is then closed, as in a Bassini operation, except that we do not transplant the cord; that is, we bring the conjoined tendon and Poupart's together above the cord (Fig. 13). We then suture the incision in the external oblique with continuous suture (Fig. 14), and, lastly, close the external wound. I have employed formalin catgut for the buried sutures and horsehair for the skin sutures. A fairly firm, not uncomfortable, compress over the canal, retained with spica bandage, completes the operation. The horsehair sutures are removed on the tenth day, the patient allowed on his feet on the fourteenth day.

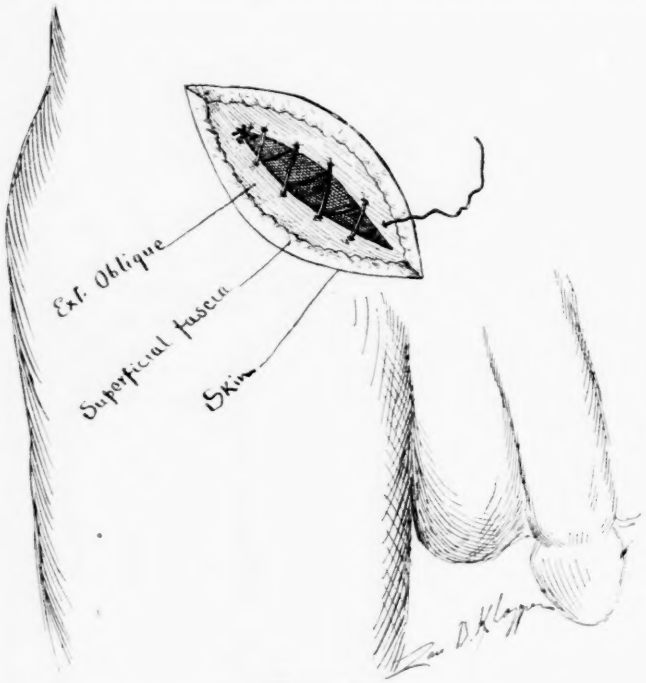


Figure 14.

The technic I have described will answer in a large majority of cases, but I have found by experience that in operating on cases in which the testicles are not palpable, and are well within the abdomen, and in some few cases when the testicles are palpable, that I could not, by the method described above, free the testicle sufficiently to bring it into the scrotal pocket, without tension. In analyzing the facts in these cases, I found that the tense structure which prevented reduction were the spermatic vessels, and not the vas. The spermatic vessels run in almost a straight line from the internal ring to the abdominal aorta and the ascending vena cava and renal vein. The vas, on the other hand, makes a long sweeping curve in its course from the internal ring to the base of the bladder. The artery of the vas accompanies it and follows this same curve. The vas is the essential organ in the spermatic cord.

The question which confronted me in some of my difficult cases was whether the spermatic vessels were structures essential to the integrity of the testicle, or whether they could be safely sacrificed, in those cases in which the testicle could not be sufficiently freed without dividing them.

Reasoning from a clinical experience of more than a hundred varicocele operations in which I had removed all of the structures of the cord, with the exception of the vas and its vessels, and had never seen gangrene of the testicle, or any apparent interference with its nutrition, I concluded that the spermatic vessels could be safely sacrificed in those cases where it is necessary to divide them in order to bring the testicle well down in the scrotum. I have, therefore, in a number of cases ligated the spermatic vessels at two points and divided between, as shown in Figure 15, and have had no evidence of interference with nutrition; in fact, these have been among my most successful cases, from the standpoint of clean and rapid recovery.

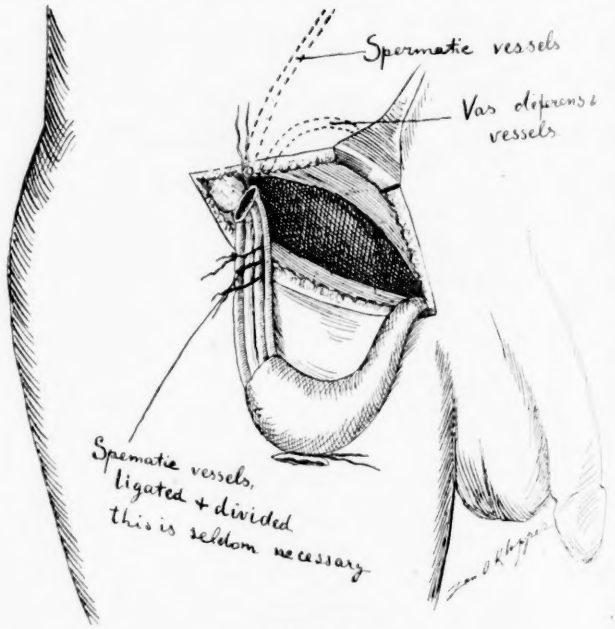


Figure 15.

After my first operation of this kind I found that J. Griffith,[1] writing on the effects on the testes of ligature of the spermatic artery and spermatic veins, and of both artery and veins, had demonstrated that these vessels could be sacrificed without any permanent interference with the function of the organ.

The explanation is this: The testicle is supplied by two arteries, the spermatic from the aorta, and the artery of the vas from the inferior or middle vesical. These anastomose freely; neither are terminal arteries, and either can be sacrificed without endangering the vitality of the testicle.

Since adopting this seemingly radical, and yet perfectly safe, sacrifice of the spermatic vessels, I have had no difficulty in bringing the testicle down into the scro-

1. Journal of Anatomy and Physiology, vol. xxx, p. 81, 1895.

tum, even in cases where it was well within the abdominal cavity, and where it had to be hooked out of the abdominal cavity and held with some tension to keep it out beyond the internal ring, until the shortened structures were divided.

I desire to urge the general adoption of operative treatment for undescended testicle. By the operation the testicle can be placed in its normal position in the scrotum, where it certainly has a better chance of developing into a normal organ than it has if it is allowed to remain in its abnormal position. At the same time, the patient is cured of the actual or potential hernia, which is always present, and is freed from the dangers and discomforts which result from the malformation, and this can be accomplished by an operation which is as safe and as sure as the operations for radical cure of hernia, and, to my mind, is much more urgently called for.

The operation requires of the operator a very clear conception of the normal anatomy of the region and the abnormal anatomy of the malformation, but otherwise presents no greater difficulty than does a Bassini hernia operation.

DISCUSSION.

DR. W. T. ECKLEY, Chicago—I shall speak on four points: (1) The diaphragmatic ligament of the primitive kidney; (2) the gubernaculum; (3) the inguinal ligament of the primitive kidney; (4) the probable factors concerned in cryptorchism. At an early period the mesonephros and indifferent sexual gland are in a retroperitoneal bed of mesodermic tissue. That portion of the mesodermic tissue cephalad of the sexual gland is called the diaphragmatic ligament of the primitive kidney; the portion caudad of the gland is the inguinal ligament; while the part corresponding to the gland becomes the mesorchium or mesovarium, according to sex. With the disappearance of the primitive kidney, the diaphragmatic ligament atrophies. The inguinal ligament develops the gubernaculum. The gubernaculum is attached, cephalad, to the sexual gland, and its inverting peritoneum, caudad, to the inguinal region and bottom of the scrotum. By traction it produces a test-tube-like processus vaginalis—a preformed structure for the reception of the testicle. The emphasis placed on the occurrence, together with cases reported by the essayist of congenital hernia and cryptorchism in the same individual, seem to clear up a hitherto controverted anatomic question, viz., whether the testicle and processus vaginalis descend at the same time. In one case at least I can corroborate Dr. Bevan's opinion that the processus vaginalis is preformed for the reception of the testicle. By a strange hypervivacity the gubernaculum may reduce to processes of peritoneum, one of which favors the occurrence of infantile hernia.

Two factors figure conspicuously in the causation of cryptorchism: (1) the spermatic vessels; (2) an unobliterated diaphragmatic ligament of the primitive kidney.

DR. CARL WAGNER, Chicago—It is not only from a psychologic standpoint of view that these cases of undescended testicle appeal for relief, but also from the anatomic and pathologic points of view, for there may be serious dangers which may be obviated through such surgical devices as Dr. Bevan's. In this connection I wish to report a case of undescended testicle, in which this condition is responsible for the loss of one testicle. It took place in a young boy, who fell about fifteen feet. He complained of severe pain in the left inguinal region. I saw the boy the second day after the accident and found a swelling the size of a small walnut in a region corresponding to the seat of the internal ring. Further examination disclosed the fact that there were no testicles contained in the scrotum. Thus I concluded that the swelling contained the undescended testicle which through the force of the fall had been thrown into the inguinal canal. On opening up, I found the testicle tightly encircled by the pillars of the internal ring, around its middle, and gangrenous. It became necessary to incise the internal ring upward in order to free and ligate the testicle off, which could not be moved downward the least bit.

I feel very much encouraged by this paper to operate on undescended testicles, and thus prevent dangers of similar character.

DR. WILLARD BARTLETT, St. Louis—There is a certain pathologic condition which must guide us as to the time at which this operation should be performed. What Dr. Bevan has said about doing the operation early is undoubtedly true. The undescended testicle is of value to us only to facilitate the development of the child. It is known that the boy who possesses two undescended testicles develops into the manly type, whereas the infant that is robbed of two normal testicles develops into an effeminate type. Knowing as we do, then, that the undescended testicles are of value only to further the development of the child, and knowing as we do that the infant develops into the girl type if the testicles are removed, it would seem that they should not be removed in the early years. On the other hand, the danger of malignant disease from undescended testicles after they are reduced is just the same as though they had been left in the abdomen. Consequently the logical conclusion must be drawn that such a testicle must be removed entirely, if you do anything to it after about the age of 18 or 20 years, whereas, as Dr. Bevan has said, the psychologic considerations would demand that they be brought down in the scrotum, if anything be done with them early.

DR. A. J. OCHSNER, Chicago—This paper is of very great importance, because up to the time at which Dr. Bevan first wrote on this subject the general tendency was to substitute the removal of the organ for its replacement. In the former paper Dr. Bevan emphasized the fact that the reason why the former attempts at replacement of the testicle had been unsuccessful was because the organ had not been loosened. He showed how the organ was held by a curled-up condition of the tissues of the cord, and that by unfolding these tissues it was possible to place it in the scrotum. Since hearing this paper read at the Cincinnati session of this Association, I have many times performed this operation and, except in the first case, in every instance with perfect satisfaction. In the first case one point made by Dr. Bevan in his original paper had escaped my attention, which I learned later in looking up the paper, namely, that the organ may be almost perfectly loose and still be held by the peritoneum. The tissues of the cord may be relatively loose and yet there may still be a certain degree of tension. Realizing this degree of tension which has been described, I have always performed the Ferguson operation in preference to the Bassini, making use of the principles brought out by Dr. Bevan and, with the exception of the first case, with perfect satisfaction.

DR. WILLIAM L. RODMAN, Philadelphia—It has been my lot to see a great number of cases of this condition, and I feel it is better to incorporate the testicle in the scrotum than it is either to excise it or to leave it in the abdominal cavity, for three reasons: The first is that the patient would, of course, very much rather have the testicle in its normal place, and the moral effect is very much better. Second, the place for the testicle is where it is least likely to undergo any form of malignant disease, and certain it is that all such organs are much more likely to undergo malignant change if left in the abdominal cavity than if they are placed in their normal position. I know some one has denied this, but I think the evidence is absolute that the undescended testicle is prone to undergo degenerative change. The third reason is that the testicle in the inguinal canal can expand and grow and develop in a way that it could not if it remained in the abdomen, and that is the chief reason why these organs are practically without function, and why a person with two undescended testicles is practically impotent. Naturally, there will be a much better chance for the development of the testes if the operation is done early, as Dr. Bevan says, and not after puberty. I think undoubtedly he was correct in changing his position and saying that these operations should be done before puberty. The last case that I operated on was a child about 8 or 10 years old. He was the son of a

physician living in New Jersey. He had become very much concerned about the future of the child, and rightly, I think, insisted on the operation being done early. In one case which occurred in a young man I was able to bring both testes down and anchor them in the scrotum in the way indicated by Dr. Bevan. I am glad to say that the results have been very good, although I believe the testicle, even if brought down into the inguinal canal, will never become functionally active.

DR. ARTHUR DEAN BEVAN, Chicago—In regard to the question raised by the last speaker, I think that we must always be guided by the conditions which are present. The operation is performed, of course, with the idea of giving relief to the individuals who have undescended testicles. Of course, these cases are almost always complicated by hernia, and the point I wanted especially to make is that by this method we have only to bring the testicle down and do not have to apply any tension. My experience has been rather limited in this work, about twenty cases, but I have not seen more than one where we could not bring the testicle down without any tension.

APOPLEXY.

T. B. GREENLEY, M.D.
MEADOW LAWN, KY.

On account of some peculiarities in the way of symptoms, I report a case of apoplexy.

A female, aged 81, was stricken Sept. 10, 1902, with all the symptoms of cerebral hemorrhage. She was unconscious and paralyzed, which condition continued nearly twenty-four hours, when consciousness returned. In a short time she could move her left foot, and we soon discovered that she had hemiplegia of the right side.

In a short time she could use her left extremities, so that she could feed herself, lying on her right side. She remained in bed about two months, when we allowed her to sit up a few hours at a time in the morning and afternoon.

In three months she was able to walk with a little assistance. She now ate her meals at the table, and sat up nearly all day. Her appetite and digestion were nearly as good as before she was taken sick.

At first we had no hope of her recovery on account of her advanced age and the severity of the attack, but now she was so much improved we began to entertain great hopes of her final recovery.

She could not use her right hand in feeding herself, but could stoop down and pick up light things, such as a paper, requiring but little grip.

In about four months from the time of attack, she could pull herself up and walk alone through the rooms and hall, which she frequently did during the day for exercise.

She was perfectly conscious of her surroundings and recognized friends who called to see her; but she never recovered the ability to command language to express her feelings, or to converse with her friends. She endeavored to talk, but could speak very few intelligible words. This is one of the rare symptoms attending apoplexy.

There is frequently inability to talk immediately after an attack due to paralysis, but I have not met with a case where this condition existed after regaining the use of the muscles of the tongue, etc. One singularity in her case attended this condition, which was, if you requested her to count, she could do so up to any number, and enunciate the words distinctly. She could also repeat the letters of the alphabet very distinctly. This seemed unaccountable when we could not understand a word she tried to say when endeavoring to talk to her friends. This condition might perhaps be accounted for on the ground that she knew the alphabet and numbers by heart, but was unable to originate language in the way of conversation.

The extravasation of blood in the brain must, in her case, have compressed the origin of the nerves, the function of which enables us to command language.

About ten days before her second attack she began to lose the use of herself, and could not walk without some assistance, although her appetite remained as good as usual, still eating at the table.

On the night of February 10, just five months after the first attack, she had the second. I was sitting by the bedside when it came on. I noticed several minutes before that the blood vessels about the head and face were congested; and as she seemed to be losing consciousness, I felt certain another attack was approaching. In a very short time she had a slight spasm, a mere sudden jerk; and she was perfectly motionless and unconscious. She never regained consciousness or any muscular action, and lived only thirty hours.

I spoke, in the outset, of some peculiar symptoms attending this case. I have mentioned one, her inability to command language to express herself in trying to talk with her friends, and the ability to repeat words she had been familiar with all her life, such as counting numbers and repeating the letters of the alphabet.

Another unusual symptom was the change in her habits for about a month before she was stricken down. She was always a great reader and talker, but for several weeks before she was taken ill she had but little to say in the way of conversation and she read but little. Before this, she always read some in the Bible every day and was fond of reading religious papers, but now she would only read a paper a few minutes and lay it down. This change in her habits was remarked by her friends, but, of course, could not be accounted for. From the history of the case I feel satisfied that there was some change then taking place in the brain substance.

The results of apoplexy vary according to the amount of blood extravasated into the brain substance and amount of pressure resulting therefrom.

Hemorrhage in the cerebellum is much more apt to prove fatal suddenly than in other portions of the brain. In fact, many cases fall and die immediately. Those who escape sudden death are afflicted with hemiplegia on the side opposite to that of the hemorrhage, the nerves decussating to the side opposite their origin. Probably half of the cases recover so they can walk, and have good use of themselves, except the hand of the hemiplegic side. Some who recover their health in every other particular never regain the proper use of the hand, but now and then a patient recovers the use of all parts of the paralyzed side. I have had two cases attended with this result. Of course this depends entirely on the amount of blood extravasated into the brain and on the severity of the attack.

The exciting causes of apoplexy are somewhat indeterminate. A person may be in an excellent state of health and be stricken very suddenly. This may occur without any premonitory symptoms or indications. It may occur while sitting, standing or walking, without mental excitement or physical effort.

But, no doubt, in some instances there exists some diseased condition of the brain, or pathologic alteration in its structure favoring hemorrhage.

Then again, the attack may occur during great mental excitement or physical exertion. Whatever may increase the circulation or retard the blood from returning from the brain may result in an attack. The treatment of such cases, of course, is simple but essential. The patient should be kept as quiet and comfortable as possible, with the head and shoulders somewhat elevated by pillows. The room should be well ventilated and kept perfectly quiet; in fact, anything calculated to produce excitement must be excluded from the patient. His diet should be light, but digestible and nourishing.

In old times venesection was practiced in such cases, and at present, if the patient is robust and stricken down in perfect health, there is no doubt that the abstraction

of blood by venesection would prove beneficial. But, by doing so, we would have to revive a lost art in surgery.

It is very essential that the bowels should be kept well relaxed, so as to determine, as much as possible, from the head in the way of revulsions. The kidneys should also be kept active, in order to modify the quantity of blood in the veins.

The action of the heart should be looked after and kept in moderation. If there is apparent congestion about the head, it would be well to apply cloths wrung out of cold water and hot applications to the lower extremities, etc.

Apoplexy is much more common now than formerly. During the census year of the United States, 1900, there were 50,766 deaths from the disease; 27,059 males and 23,707 females; the proportion of deaths from apoplexy and paralysis in 1,000 deaths from all causes was 50.8; whereas, in 1890, ten years before, the corresponding proportion was 37.6 per 1,000 from all causes. In fact, there are other diseases, aside from apoplexy, which are more common now than years ago and, apparently, more fatal. We might name, and very conspicuously so, pneumonia. During the winter and spring seasons we frequently notice in the weekly reports of mortality in cities that more people die from the effects of pneumonia than from the much-dreaded white plague, tuberculosis.

Fortunately, the latter disease is not so prevalent and fatal as formerly, this change taking place within the last decade. It has decreased from 12,146 deaths in 1890 to 10,688 in 1900 per 100,000 deaths from all causes. This happy result has been brought about by the use of preventive means and a better mode of treatment.

New Instruments.

A NEW TONSIL SCISSORS, FORCEPS AND TONGUE DEPRESSOR.

C. C. STEPHENSON,
LITTLE ROCK, ARK.

The operation for tonsillotomy with these instruments, and the advantages they possess, are briefly as follows: The forceps are made to seize the tonsil, when the handles are locked with

fixation ratchet; the tonsil is then drawn out, the beak of scissors is passed behind, and the gland cut off entirely, as in cutting with an ordinary scissors. The beak prevents the tonsil from slipping from between the blades of scissors, and so much of the tonsil can be removed as is desired. While holding it with the forceps the tonsil is completely under control of the operator; thus there is no receding of the gland as in the ring of a tonsillotome.

The simplicity and ease in operating commend the scissors and forceps, while with them the removal of entire gland without trouble is a desideratum. The handle of the tongue de-

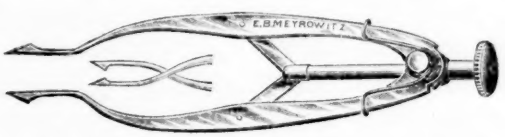
pressor is octagon, and curves outward, thus allowing an examination of the full-chested class of patients, without the end of

the handle coming in contact with the chest. The blade has three holes for the dorsum of tongue to project through, which prevents it from slipping from side to side while in use.

IMPROVED TENDON TUCKER.*

FRANK C. TODD, M.D.
MINNEAPOLIS.

I desire to show the Section a tendon tucker, which is an improvement over my instrument shown at the session last year. The principle of this instrument is the same, the only



difference being that the adjustment is made at the distal end of the instrument, where it is more easily handled. The operation was described in the *Ophthalmic Record*, February, 1902.

* Exhibited at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology.

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SATURDAY, SEPTEMBER 19, 1903.

THE MILK SUPPLY OF CITIES AND TOWNS.

Milk is so important and so valuable an article of diet, particularly for children and invalids, that every measure calculated to ensure its purity and improve its quality should be most heartily encouraged. Contamination and deterioration may take place so readily that only the utmost vigilance at all steps between production and consumption will secure freedom therefrom. To act intelligently in the matter requires a knowledge of the sources of danger, as well as of the means for combating them.

The subject of the milk supply has received considerable attention of late, particularly with reference to the feeding of infants, and in several large cities—Philadelphia, New York, Chicago, etc.—commissions composed of medical men have been organized for the purpose of devising ways and means for the attainment of the desired end, and with most promising results. Essex county, N. J., has for ten years had a medical milk commission, which gives its endorsement to the milk of such dairymen as will enter into an agreement as to the care of their cows, the collection, handling, preparation for shipment and transportation and delivery of their milk. Nor has the subject been neglected by the producers of milk, who are now giving increased care to the selection and breeding of their cows, as well as to the housing and feeding of the stock, and to the details of the milking, packing and transportation; while the milkman, in his turn, has striven to supplement the efforts of the dairyman.

For the purpose of determining what has already been accomplished in the improvement of the milk supply, together with the measures that have been found efficacious, and with the object of guiding new movements or reviving old ones in the same direction, the Bureau of Animal Industry of the United States Department of Agriculture has, through the chief of its dairy division, Mr. Henry E. Alvord, and his assistant, Mr. R. A. Pearson, made a study of the milk supply of 200 cities and towns. The report, from which we have already quoted in our news columns, is based on official documents and special reports from officers charged with the enforcement of so-called milk laws and ordinances. It deals with the legal requirements as to market milk in every state and territory having laws on the subject, and includes a more or less detailed account of the milk supply of all of the 161 large cities in the United States having a population of more than 25,000 each, and also of thirty-nine selected cities and towns of smaller size.

As an evidence of the magnitude of the industry it is estimated that 1,000,000,000 gallons of milk are sold annually by the owners of producing cows for consumption in the natural state or for household purposes. It is further pointed out that so much has been said and written regarding impure market milk that many persons have become unnecessarily alarmed, and for this reason any fair inquiry into the subject that will elicit the facts in the case and suggest steps to be taken for the benefit of the industry should be welcomed by milk inspectors and consumers, as well as by milk producers and dealers. It was found that the average quantity of milk per capita provided in the daily supply, and presumably consumed, in the large cities (that is, with a population above 100,000) is 0.61 pint. In cities with a population between 50,000 and 100,000 the average consumption is 0.63 pint; in cities with a population between 25,000 and 50,000, 0.58 pint, and in cities and towns with a population of less than 25,000, 0.57 pint. For individual cities the amount varies between 0.27 and one pint. Skim milk is used by some cities in addition to whole milk up to about one-third pint daily per capita, while in other cities no skim milk at all is used. The quantity of cream used daily in the larger cities varies from 0.01 to 0.19 pint per capita. Producers usually receive on their farms from 2 to 3 cents per quart in the summer and 3 cents or more in the winter, although lower and higher prices respectively are exceptionally received. The average price paid by consumers of milk, when retailed in small amounts, is about 6 cents in summer and 7 cents in winter. The cost may be slightly enhanced by the exercise of close supervision of milch cows and the adoption of precautions necessary to insure milk of high quality and purity from both the chemical and bacteriologic standpoints, but the public has not yet learned to appreciate the advantages of such protection.

The delivery of milk and cream in glass jars is increasing in favor and has distinct advantages. The jar constitutes an accurate measure; it can be readily sterilized and its contents are protected from contamination. Pasteurization of market milk is not generally practiced, only a few cities reporting a small portion as being thus treated, although the practice appears to be gradually extending.

Laws referring to market milk are on the statute books in thirty-five states, while nine other states and territories have enacted pure-food laws having a bearing on the milk supply, but only twenty-six states have officials whose especial duty it is to enforce these laws. Almost every city and many towns and villages have ordinances or board of health regulations concerning the milk supply. With few exceptions, there is some supervision of the milk supply in all cities of the United States having a population over 50,000. Much less supervision is exercised in cities with a population

between 50,000 and 25,000, and in small cities and towns supervision is the exception rather than the rule. This consists principally in testing samples of milk to ascertain if they contain the proper amount of cream and solids, while inquiry into the health of the cows furnishing the milk and of the persons handling it, and into the conditions to which it is subsequently exposed, is too often ignored.

Among improvements that have recently been instituted and suggested are the following: The registration of all dairies; official endorsement of properly conducted dairies; inspection of all herds, barns, dairy buildings, etc., once a month; better lighting, ventilation, drainage and cleanliness of cow stables; whitewashing the interior of stables; eradication of tuberculosis from dairy herds; branding of condemned cows; cows not to be given swill feed, etc.; cows to be regularly cleaned; pasturage for city cows; aëration of milk in pure air; prompt cooling of milk and holding it at low temperature until final delivery; shipment of milk promptly from farms after milking; delivery of milk and cream in sealed packages (glass bottles or small cans), so as to avoid unnecessary contamination by city dust, etc.; delivery of milk in cities at any hour of the day when it can be supplied in the best condition; restrictions on the sale of milk in markets, candy stores, etc.; delivery of milk from such stores in bottles only; mixing of herd milk so as to get an article of uniform composition; bottling of milk only at the dairy or place of general supply; daily sterilization of milk utensils; more rigid inspections for preservatives in milk; chemical and bacteriologic examinations of milk; standards for cream and skim milk; the passage of no law that can not be reasonably well enforced; more pay and allowances and greater authority for milk and dairy inspectors; more severe penalties for violation of milk laws; publication of reports on inspection of dairies; education of milk producers by a liberal distribution of circulars, leaflets, etc., bearing on their work.

DISEASE AND MUNICIPAL RESPONSIBILITY.

Human life has become more precious in recent years, and human suffering has taken on the significance of an evil that must, as far as possible, be avoided at any cost. Accidents and death have lost most of their calm acceptance as inevitable results of providential conditions, and strict accountability is demanded. It would be well if the same thing were more true with regard to disease than has been the case up to the present time. Modern medical progress has taught very definitely what are the exact causes of many diseases, and we know now that in most cases when infectious disease affects a particular individual it is not usually (though, of course, it may be) because the person has "caught" the disease, as used to be said, but it is because some one has blundered and thus made it possible for the disease to be communicated in an unsuspected way.

Typhoid fever we now know to be due to the ingestion of the typhoid bacillus. The typhoid bacillus comes from the excretions of a patient suffering from the disease. Unless the assumption that forms the basis of the science of bacteriology is wrong, the disease germ never arises by any chance *de novo,* never originates spontaneously. If typhoid stools and urine were cared for as they should be, and as modern medical practice has made it rather easy for them to be, there should be no further cases of typhoid fever. An enthusiastic sanitarian said not long since, with regard to this question of cause and effect in typhoid fever, that when a person dies of typhoid fever some one should be hung. There is no doubt that a criminal responsibility attaches to the neglect of precautions which would make impossible the communication of typhoid fever to those as yet unaffected by it.

These considerations are of special interest at the present time when we are entering on the season of the year in which typhoid fever is more frequent than at any other and when the death rate from the disease always becomes an important factor in the mortality of most of our large cities. Some of the reasons for this prevalence of typhoid at this season are well understood. The main factors in its distribution are water and such food materials as milk, oysters and certain vegetables that are eaten raw. These articles of food and drink are not dangerous unless there has been some serious neglect with regard to the precautions necessary to protect them from infection by typhoid bacilli. Of all of them by far the most important is the water supply, and this is usually under the care of the municipal authorities, or if supplied by private parties it is under a franchise from the municipal government.

It is only logical to conclude that under these circumstances legal criminal responsibility should hold against the municipal authorities or against those to whom they have granted a franchise if it can be shown that there has been neglect of proper precautions in the matter. A half century ago large corporations were able to shirk their responsibilities for accidents, much more readily than at the present time, but, fortunately, a proper sense of their obligations in such matters has grown up in our communities, and it is well understood that damage suits will follow bodily injury.

It seems not improbable that a corresponding state of affairs will have to come to pass with regard to responsibility for disease. There is no doubt that large corporations are much more careful in guarding against accidents and injuries, since it has become a matter of costly experience that their responsibility for them will always be held strictly to account. Perhaps municipalities will come to something of the same realization under the stress of similar conditions.

Certainly at the present moment nothing is more discouraging in social affairs than the fact that citizens somehow do not consider municipal responsibility as ac-

countable for the suffering, often permanent injury and frequently death that is inflicted by municipal neglect in these important matters.

There is room for improvement in the civic sense of our American communities. Citizens must come to the realization of what is owed to them by city governments in the matter of protection for health, and now as the precautions necessary to secure proper sanitation in every way are so well understood, failure should be followed by immediate legal reclamation. It would seem that physicians owe it to their fellow citizens to make them understand that responsibility for disease is quite as direct as that for accidents. We can foresee that the awakening of such a feeling will be followed by further progress in the healthfulness of city life.

INFANT MORTALITY AND THE LAW OF NATURAL SELECTION.

Those persons who are wont to strengthen a comfortable optimism by extracting sunshine from cucumbers have often urged the view that the high infant mortality that is so characteristic of city life in our time is, from the racial standpoint, not altogether deplorable. The specious argument runs that through the stress of environmental conditions the weaker individuals in each generation are eliminated during the period of infancy, and that, therefore, the adult population in those districts where infant mortality is high must be more vigorous than if the weaklings were able to develop to maturity. It has been asserted that in places having a high infant mortality, the mortality in the succeeding years of childhood is actually lower, the average fitness of the male population for military service greater and tuberculosis less prevalent. Statistical evidence has been adduced in support of this view, especially by Oesterlen, who has maintained with a show of figures that those districts in Europe having a large death rate among infants exhibit a lower mortality during the succeeding years of childhood than do those countries in which the infant mortality is small. The implication is that a high death rate during the first months of infancy must in the long run benefit the race by weeding out the weaker and less fitted to survive. In some quarters fear has been expressed lest too great devotion to the task of preserving feeble infants may lead to a deterioration in the physique of future generations.

From one point of view the preservation of weakly infants needs no defense. The world has been too often the debtor to men of feeble constitution to be willing to admit that only those of strong physique are of value in advancing the knowledge and well-being of the human race. The present generation, with its eyes fixed on the importance of definite material accomplishment, may perhaps need the reminder of Mr. Bliss Perry in his recent brilliant essay on indifferentism that "None of our contemporary hallucinations leads more certainly to ultimate weariness and indifferentism than this too exclusive glorification of 'men who do things.' . . . If we have purchased speed and power at the cost of nobler qualities, if the men who do things are bred at the expense of the men who think and feel, surely the present American model needs modification." But although the idealist and what he stands for may not be conspicuous in the columns of the American daily newspaper, there are many reasons for believing that the kind of success due to great energy and dominant physical power is not the only thing that at present looms large in the minds of many Americans. Huxley has expressed himself on this matter of selecting good citizens with a characteristic touch of scorn for the "saviors of society": "I doubt whether even the keenest judge of character, if he had before him a hundred boys and girls under fourteen, could pick out with the least chance of success those who should be kept, as certain to be serviceable members of the polity, and those who should be chloroformed, as equally sure to be stupid, idle or vicious. The 'points' of a good or of a bad citizen are really far harder to discern than those of a puppy or a shorthorn calf." The assumption that physical vigor in infancy constitutes any criterion of the future significance of the individual to the race may be dismissed as a crudity of a one-sided conception of human life.

From the standpoint of bodily energy or simple physical vigor, the natural selection argument may still retain an element of plausibility. Prinzing, however, in a recent searching criticism[1] of the doctrine advanced by Oesterlen and others, reinforced by extensive statistical material, is utterly unable to find any reason for believing in the existence of correlation between high infant mortality and either a diminished mortality in the early years of childhood, superior physical qualifications for military service, or a low death rate from tuberculosis. In none of these respects do communities that are favored with a high infant mortality possess any advantage over those in which the infant mortality is low.

It is not surprising that this should be the outcome of Prinzing's statistical inquiry when we reflect that by far the larger number of deaths among infants in the first months of life are due not so much to congenital weakness as to errors or misfortunes of nutrition. The quality of the food to which a young infant has access is the great leveler, and does far more than robustness at birth to determine whether the young Darwin or Pasteur or Roosevelt shall perish or survive. Little alarm need be felt, therefore, at the efforts now making to lower the excessive infant mortality in the chief centers of population. It is safe to assume that these endeavors are not running counter to the law of natural selection, and will not necessarily result in a survival of either the physically or the intellectually unfit.

ASEXUALIZATION OF CRIMINALS.

A Baltimore grand jury has recommended the asexualization of those convicted of criminal assaults on

1. Centralbl. f. allgem. Gesundheitspfl., 1903, xxii, p. 211.

women, and especially on young girls, thus giving a sort of judicial or official recognition to the proposition that has been repeatedly made by private individuals. That it will be acted on at the present time is rather more than doubtful, but it shows a tendency that may grow even to the point of actual legislation at some future time. Such a punishment might be construed as unconstitutional, but it would at any rate be better than lynching, which is getting so common in some sections that its peculiar methods can almost escape the constitutional provision against "unusual" punishments. Whether the proposed method would be considered unconstitutional we are not prepared to say, but it would be comparatively humane and for a certain class of criminals more effective than the usual methods.

THE LUST OF SLANDER.

Referring to our editorial last week under the above caption, we are glad to report that Dr. Leffingwell has made a "reply" in the last issue of *American Medicine*. The reply is evasive. Dr. Leffingwell does not deny or disprove that his remarks have created an impression warranting the reference to them in the British antivivisection journal. We must judge utterances by the impression that they are evidently intended to convey rather than by their literal verbal text which may favor quibbles and an evasive answer. It seems clear to us from Dr. Leffingwell's own showing that he had brought out the charge that vivisection was carried on for infamous purposes, and no man recognizing its value and not wishing to convey false impressions would have allowed himself to speak so as to permit of such inferences. We do not think he has cleared up the case as far as his own responsibility is concerned, though he has said enough to spoil his testimony for the antivivisectionists.

Medical News.

CALIFORNIA.

Fullerton Hospital Completed.—The new hospital at Fullerton has been turned over to the board of directors by the contractors. On August 13 the building was formally opened. It has 21 rooms in all and is thoroughly equipped.

Vital Statistics.—In San Francisco during July 500 births were registered, a rate of 14.62 per 1,000 per annum; during the same period 609 deaths were recorded, equivalent to an annual death-rate of 17.82 per 1,000. Violence caused 50 deaths.

Two More Cases of Plague.—The ninety-eighth case of bubonic plague in San Francisco was that of Lee Jim, a Chinaman, who was found dead July 20. The diagnosis was confirmed by autopsy and by bacteriologic tests.——On August 9 W. Boek, a German, of Pacheco, Contra Costa County, died at a San Francisco hospital, and the autopsy established the diagnosis of plague. This is the ninety-ninth case.

Aids State Medical School.—Regarding the relation of the State University to its affiliated medical department, which was discussed at the recent meeting of the board of regents of the university, the superintendent of public instruction states:

After considerable discussion it was agreed to supply temporary relief to the school, by authorizing its financial committee to sell certain property that was willed to the institution by Dr. Toland, and to apply the money received to the financial aid of the school. The exact status of this department will be an important question for future decision, the regents being about equally divided in opinion as to whether to assume full control of the school or to cut away from it entirely and allow it to shift for itself.

New Laboratory at State University.—The dedication of the Loeb Physiological Laboratory of the University of California took place on August 20. The dedicatory address was delivered by Prof. Wilhelm Ostwald of Leipsic, it being delivered in German, but a full translation was published in the San Francisco papers, as was also the address of Dr. Loeb. The Loeb Laboratory is the gift of Rudolph Spreckels, who furnished $25,000 for the purpose, beside a large part of the equipment. Dr. Herzstein also assisted in equipping the laboratory. Mrs. W. H. Crocker gave a library. An anonymous friend of the university furnished the means of paying Dr. Loeb's salary.

Personal.—Dr. Benjamin A. Plant, physician at the State Penitentiary, Folsom, has resigned.——Dr. James P. Dunn, Oakland, has been appointed chief surgeon of the Southern Pacific Railway in Alameda County.——Dr. Charles E. Turner, Vallejo, has been elected secretary of the local board of health, vice Dr. Walter D. Anderson, deceased.——Dr. Bertram F. Alden has been elected chief surgeon of the French Hospital, San Francisco, succeeding Dr. F. P. Canac-Marquis, resigned. ——Dr. J. Denis Arnold, San Francisco, was recently thrown from his horse at Council, Alaska, spraining and wrenching his ankle seriously.——Drs. Edward Henderson, Isaac N. Hughey and Thomas J. Wilson have been appointed members of the Pomona Board of Health.

COLORADO.

July Deaths.—During July 774 deaths occurred in the state, equivalent to an annual death-rate of 15.67 per 1,000. Of these, 12 each were caused by diphtheria and typhoid fever, 3 by smallpox and 2 by scarlet fever.

College Opens.—Denver and Gross Medical College, Denver, opened for its second year September 14, with addresses by Chancellor Henry A. Buchtel, Dr. Edmund C. Rivers, president, and Dr. Leonard Freeman, vice-dean, of the institution.

Personal.—Dr. Arnold Stedman, Denver, was operated on for appendicitis, September 3, and is reported as doing well.—— Dr. Elsie Reed Mitchell, Denver, leaves for India, October 1. She will take charge of the Lutheran Hospital at Guntur.

Communicable Diseases.—During July 126 cases of diphtheria, 64 of scarlet fever, 133 of smallpox, and 55 of typhoid fever were reported to the State Board of Health. Compared with the previous month, this shows a decrease of 40 cases of diphtheria, 41 of scarlet fever, and 54 of smallpox, and an increase of 30 cases of typhoid fever.

CONNECTICUT.

New Britain Hospital.—The new hospital building, erected at a cost of more than $20,000, is expected to be ready to receive patients some time this month.

Hospitals Incorporated.—The New Haven Emergency Hospital and the Eastern Emergency Hospital of New Haven, with capital stocks of $5,000 and $2,500 respectively, have been incorporated.

Medico-Military Changes.—Major Rockwell, surgeon First Infantry, C. N. G., has been placed on the retired list; Assistant Surgeon John B. McCook, Hartford, has been appointed surgeon-major, and Dr. Herman A. Tyler, Jr., Hartford, surgeon-lieutenant, both being assigned to the same regiment.

Wickerwork Coffins.—Dr. Charles A. Lindsley, New Haven, secretary of the State Board of Health, advocates burying the dead in wickerwork caskets instead of the usual wooden or metal coffins. The body of the deceased, he said, might sooner come in contact with the earth and be more quickly destroyed. This would be a more sanitary method than the present one.

GEORGIA.

Unqualified Practitioner Sued.—Frances McCandless of Atlanta, a graduate of the American Health College of Cincinnati, an institution incorporated with the object of "teaching and practicing the Religious Spiritual Vitapathic System of Health and Life for Body and Soul," has, nevertheless, been sued by an ungrateful patient for $20,000 damages, for alleged malpractice.

The Grady Hospital Matter.—The committee on hospitals and charters appointed to investigate the rules of the Grady Hospital, Atlanta, in its report endorses the present management of the hospital; and recommends that the entire board of trustees act in the management instead of an executive committee; that the pay department of the hospital be abolished after Jan. 1, 1904; that the number of trustees be reduced to 7; that the out-patient department be abolished; that visiting hours be allowed on Sunday, and that information regarding the affairs of the hospital be freely furnished to the public.

The State Board of Health.—At its first meeting, September 10, in Atlanta, the board was organized, a constitution and by-laws adopted, and Dr. Augustus P. Taylor, Thomasville, elected president *pro tem.*, and Dr. Robert M. Harbin, Rome, secretary *pro tem.* After the organization the following officers were elected: Dr. Willis F. Westmoreland, Atlanta, president; Dr. H. F. Harris, Atlanta, secretary for six years; Drs. Charles Hickes, Dublin, Samuel C. Benedict, Athens, James B. Morgan, Augusta, and Howard J. Williams, Macon, committee on general powers and duties; Drs. H. F. Harris, Atlanta, William W. Stewart, Columbus, and Robert M. Harbin, Rome, committee on diseases common to man and animals, and Drs. Augustus P. Taylor, Thomasville, Giles Hathcock, Belton, and Millard S. Brown, Fort Valley, committee on sanitation and vital statistics.——Dr. F. M. Ridley, La Grange, having declined appointment on account of ill health, the governor has appointed Dr. William W. Stewart, Columbus, a member of the board.

ILLINOIS.

Offender Provisionally Released.—On her promise to refrain from practicing medicine, Mrs. Edith Nail, Pekin, who was arrested a short time ago on the charge of illegal practice, was released September 10.

Physician's Register.—The 1903 "Report on Medical Education" of the Illinois State Board of Health will be issued in about two weeks. This report includes an official register of physicians, corrected to Sept. 14, 1903. Illinois physicians desiring a copy of the report should write to the secretary of the State Board of Health, Springfield.

Skeletons Found in Sanatorium.—In a building formerly occupied by Dr. Carl L. E. Weber, Quincy, as a private hospital for women, in which three skeletons were found a year ago, two more skeletons were found, September 4. While it is supposed that these skeletons are of patients who died in the hospital, Dr. Weber will not be prosecuted as, it is alleged, he is at present under restraint, a mental and physical wreck.

Does Running Water Purify Itself?—Sanitary experts, physicians and bacteriologists representing the Chicago Drainage Board left Chicago, September 16, for a trip down the drainage canal and the Illinois River to St. Louis for the purpose of examining the water along the route and ascertaining whether germs are carried from Chicago to St. Louis. The Sanitary Trustees declare that the river purifies itself long before reaching St. Louis.

Examination for Medical Officers.—In conformity with the new military code adopted by the last general assembly requiring that all medical officers of the National Guard shall be examined as to their competency, the following are ordered to report to General Nicholas Senn in Chicago, September 26, for examination: Charles J. Sowle, first lieutenant and dental surgeon, assigned to Third Infantry; Walter J. Brown, Danville, first lieutenant and assistant surgeon, assigned to artillery battalion; Horace H. Sheets, first lieutenant and assistant surgeon, assigned to Third Infantry; Arthur F. Wilhemy, Decatur, first lieutenant and assistant surgeon, Fifth Infantry; William H. Maley, Galesburg, first lieutenant and assistant surgeon, artillery battalion, and Levi S. Brown, first lieutenant and veterinary surgeon, assigned to artillery battalion.

Chicago.

Hospital Buys Land.—George B. Swift has sold to the Frances E. Willard Temperance Hospital property 24 by 115 feet on Lincoln street, for $1,000.

Personal.—Dr. Frank E. La Force has returned after a month on the Pacific Coast.——Dr. and Mrs. G. E. Fosberg have returned from abroad.——Dr. Denslow Lewis has returned from a year's residence in Berlin.

No Ground for Alarm.—The health department says diphtheria is not so prevalent as usual in the city at this season of the year. There were only 10 deaths from the disease reported during the week, as compared with 14 during the week before. There will undoubtedly be an increase as cold weather approaches from the effects of huddling together in badly-ventilated rooms, both at home and in school.

Deaths of the Week.—Deaths from all causes for the week ended September 12 numbered 504, or 40 more than for the previous week, and 10 more than for the corresponding week of 1902. Acute intestinal diseases head the list of death-causes with 92; then come in order, consumption, 57; violence, 41; heart diseases, 39; Bright's disease, 34; nervous diseases and pneumonia, each 22, and typhoid fever, 21. The deaths represent an annual death rate of 13.94 per 1,000.

Meddlesome, Mischievous and Sensational.—In these terms the department of health characterizes the recent attempt to the superintendent of compulsory education to operate a special health department:

> Physicians of Chicago, school principals and teachers and parents of school children are officially notified that they are not required, either by state law or city ordinance, to report cases of contagious disease, suspected or actual, to any authority except the Contagious Diseases Division of the City Health Department.
>
> This public notice is made necessary by a renewal of the efforts of the superintendent of compulsory education of the school board to operate an independent health department of his own. His motive is no doubt a laudable one, and if his efforts were guided by a moderate degree of professional intelligence and qualification for the work they might be beneficial instead of detrimental. As it is they are meddlesome, mischievous and sensational.

INDIANA.

Typhoid Raging at Norwood.—It is reported that typhoid fever is raging at Norwood, a suburb of Indianapolis, where 21 cases of the disease existed on September 10, with very bad sanitary conditions.

To Restrain Eddyism.—The State Board of Medical Registration commenced the prosecution of Eddyites, August 21, when affidavits were placed in the hands of the states attorney, charging Anna B. Dorland and Laura Funk, Indianapolis, with practicing medicine without license.

New Hospital for Michigan City.—Contracts for the construction of St. Anthony's Hospital, Michigan City, have been awarded by the Order of Franciscan Sisters. The building is expected to cost about $60,000, and is to be ready for occupancy next spring. The cornerstone is to be laid October 11.

Personal.—Dr. William C. Willeford, Washington, had a narrow escape from death by atropin poisoning recently. ——Dr. Theodore C. Sargent has been appointed surgeon at the State Soldiers' Home, Lafayette, vice Dr. John A. Martin, resigned.——Dr. Barnhardt Erdman, Indianapolis, has sailed for Europe.

Smallpox.—There were 112 cases of smallpox reported in August from 29 counties, with 12 deaths. In the corresponding month last year there were reported 245 cases in 30 counties, with 2 deaths. The decrease in cases, it will be noted, was 130. The area was decreased by one point and the number of deaths increased 500 per cent. These figures indicate an increased virulence.

August Deaths.—The total number of deaths reported was 2,933, an annual rate of 13.7 per 1,000. In the corresponding month last year there were 3,158 deaths, a rate of 14.8 per 1,000. Deaths under 1 year were 598, or 21.3 per cent. of the total. Deaths 65 years and over, 630, or 22.8 of the total. The consumption deaths numbered 259, typhoid fever 108, diphtheria 21, scarlet fever 8, measles 3, whooping cough 10, pneumonia 79, diarrheal diseases 451, cerebrospinal meningitis 37, influenza 10, puerperal fever 10, cancer 124, violence 165, and smallpox 12. The country death rate was 11.8, the city death rate 17.4 per 1,000. The country rate was less in all but three diseases, namely, scarlet fever, measles and influenza.

Morbidity for August.—The public health was not quite as good as in the preceding month, but was better than in the corresponding month of last year. Typhoid fever increased greatly over the preceding month, the deaths being respectively 108 and 63. There were fewer typhoid deaths, however, than in August, 1902. The order of prevalence of disease was as follows: Typhoid fever, diarrhea, cholera infantum, cholera morbus, rheumatism, dysentery, intermittent fever, tonsillitis, bronchitis, inflammation of bowels, scarlet fever, diphtheria, influenza, pneumonia, erysipelas, measles, whooping cough, pleuritis, cerebrospinal meningitis and puerperal fever.

Resolutions Regarding Contract Work.—At the meeting of the Henry County Medical Society held at Spiceland, June 25, the following resolutions were adopted:

> WHEREAS, One of the principal objects of our organization is to enable its members to receive just and full compensation for their services;
>
> WHEREAS, The rapid building of traction lines, whose construction and operation are fruitful causes of accidents and injuries, is of vital importance and interest to the physician and surgeon;
>
> WHEREAS, Traction companies are offering to make contracts with physicians and surgeons, wherein the sole compensation for the services of the latter consists of passes over the lines of said companies; (See copy of contract appended.)
>
> WHEREAS, This appeal to the vanity, jealousy and envy of the surgeon tends to debase the dignity of the profession and therefore calls for imperative action on the part of this society; therefore, be it
>
> *Resolved*, That it is the sense of this society that entering into contracts with traction or other companies, to serve them without just and full compensation is undignified, unprofessional and in-

jurious to the profession, and that we should not enter into such contracts and to do all in our power to discourage others from entering into them;

Resolved, That a copy of these resolutions be sent to each physician in Henry County, requesting his co-operation in carrying out the same.

SAMPLE CONTRACT.

..... TRACTION COMPANY OF INDIANA.

I, ..., M.D., of ....., Indiana, hereby propose and agree to serve the ..... Traction Company of Indiana as surgeon at ....., Indiana and vicinity, for the consideration of an annual pass for myself, over the Interurban Lines of this Company, and in the event of the acceptance of this proposition I hereby agree:

1st. To attend professionally to the best of my ability all cases of personal injuries received by employés of said Company or by any other persons, whether passengers, highway travelers or others, arising directly or indirectly from or in the management, operation or business relating to said Company or where such injuries occur upon the property of said Company, and to furnish the necessary dressings and medicines while attending these cases; and to promptly report each case on the proper blank furnished for this purpose.

2nd. To go to any point upon the Company's lines and give the necessary attention to the injured persons, when requested in cases of emergency, also to attend any case of injury as above named when brought into my vicinity.

3rd. To examine persons who claim to have been injured in a manner aforesaid when requested, and make a prompt report to the Company, and attend court to give testimony in regard to such cases without extra compensation, also to vaccinate employés and make physical examinations of them when requested.

4th. To provide, at my charge and expense, the necessary attention above specified, by a competent surgeon in my absence or disability.

KANSAS.

Illicit Sale of **Cocain.**—P. P. Aherne, a druggist of Wichita, has been arrested on the charge of selling cocain and morphin without the prescription of a physician.

New Asylum to **Open.**—The new state hospital at Parsons, intended for the use of epileptics only, will be opened some time this month. The buildings thus far erected will accommodate 165 patients, but the intention is eventually to enlarge the buildings to a capacity of 1,000.

Too Much **Calomel.**—Dr. Olin P. Wood, Hall's Summit, has been sued by J. P. Stukey, who alleges that the defendant gave him mercury and calomel in excessive amounts and with undue frequency, whereby he was salivated, etc. He asks $1,000 damages.

Asylum **Abuses.**—The committee appointed by the governor to investigate alleged abuses in the state hospitals for the insane, embodies in its report the following:

The committee finds that there exists in the wards, among the attendants, careless practices in the handling of patients that frequently amount to unwarranted force and punishment, and sometimes to cruelty.

There exists among the attendants a kind of secret understanding which has the influence of restraining one attendant from informing the superintendent or other superior of cases of misconduct and abuses on the part of other attendants toward the patients.

KENTUCKY.

Smallpox.—Dr. Uriah L. Taylor, Columbia, reports 19 cases of smallpox in the eastern part of Adair County.——At Washington, Daviess County, 16 cases are reported.

Quarter **System in Louisville Medical College.**—The medical department of Kentucky University has decided to introduce the quarter system and continue in session the whole year.

Personal.—Dr. P. Richard Taylor, Louisville, dean of the Hospital College of Medicine, has just recovered from a serious attack of ptomain poisoning.——Dr. Hugh R. Manning, chief clerk to the pension agent in Louisville, has been asked to resign because of alleged infringement of civil service rules.

What **Killed Caine.**—Considerable interest has been aroused by the autopsy ordered by the insurance companies on the body of the late Paul Caine, who was drowned in the Ohio River several weeks ago. Drs. Samuel E. Woody, Philip F. Barbour, George W. Griffiths and H. L. Hunt are in charge of the investigation for the insurance companies; Drs. Henry M. Goodman, Henry A. Cottell and A. Harris Kelly for the Caine family. Strychnin was suspected to have been taken by the deceased prior to his going into the water for a swim, and it is on these suspicions that the examination has been ordered.

Vital **Statistics of Louisville.**—Health Officer Allen has just submitted his annual report for the fiscal year ended August 31. Among the diseases credited with the most deaths are the following: Tuberculosis, 449; heart disease, 329; pneumonia, 293; inanition, 184; diphtheria, 121; typhoid fever, 157; Bright's disease, 181; enterocolitis, 145, and meningitis, 101. Considerable space is devoted to the question of diphtheria, the death rate from which was 6.8 per cent. The disease was of a much more virulent type than in previous years. Prior to 1898 there were no records of contagious and infectious diseases. In 1898-9, with 189 cases, the mortality rate was 1.37; 1899-1900, 160 cases, with a death rate of 1.62; 1900-1, 317 cases, with a death rate of 16.22; 1901-2, 844 cases, with a death rate of 1.30; 1902-3, 834 cases, with a death rate of 6.08 per cent. Dr. Allen commends the city for its action in distributing free antitoxin to those children whose parents are unable to purchase it.

LOUISIANA.

Personal.—Dr. Felix Formento, surgeon of the Soldiers' Home, New Orleans, has resigned.

Milk Inspection.—The authority of the New Orleans Board of Health to inspect milk brought into the city by out-of-town dairies was established at a conference held between the state and city boards last week.

Proposed Pasteur Institute.—At the meeting of the board of administrators of the Charity Hospital, New Orleans, held September 7, the question of establishing a Pasteur addition to the hospital was discussed, but no definite action was taken.

Sanitary Report for August.—The sanitary officer of the New Orleans Board of Health reports: Diphtheria, 11 cases, with 2 deaths; scarlatina, 4 cases; variola, 1 case (colored), imported; typhoid fever, 79 cases in 66 premises, with 21 deaths, 13 white, 8 colored.

Sanitary Barber Shops.—At the last meeting of the New Orleans Board of Health a report was submitted recommending the sterilization of all implements used in New Orleans barber shops. The regulations are drawn up on the same lines as those adopted by New York and other cities.

August Mortality.—The August mortality showed an improvement on the record for the same month last year. White mortality 313, colored 173, total 486; giving a death rate for white of 16.54 per 1,000 per annum and for colored 25.01, or a total death rate of 18.81. The rate for August, 1902, was 19.98, 17.72 for white, and 27.82 for colored.

Lunacy Increasing.—It is said by Dr. George A. B. Hays that in Louisiana insanity is increasing at the rate of more than 10 per cent. a year, or five times as fast as the population. When he took charge of the Louisiana Insane Asylum at Jackson in 1896 there were 850 insane persons; there are now 1,550, an increase of 80 per cent. in seven years, while the population has grown only 15 per cent.

MARYLAND.

Baltimore Personals.—Dr. John G. Jay is at Wiesbaden, Germany.——Dr. Alexander D. McConachie has returned from abroad.——Dr. George W. Norris has gone to the White Mountains.

Families of Deceased Physicians.—The following have been appointed trustees of "The Fund for the Relief of Widows and Orphans of Deceased Members," founded by the Medical and Chirurgical Faculty at its meeting in April: Dr. Eugene F. Cordell, chairman, Drs. William Osler, Daniel W. Cathell, John W. Chambers and Robert W. Johnson. An effort will be made at once to start the project with $1,000.

Springs' Virtues Long Known.—In 1698 the provincial assembly empowered a body of trustees to purchase land for the erection of a hospital for the sick poor, at the "Coole Springs in St. Mary's County." This action was induced by the prevalence of an epidemic in the state. To this first Maryland hospital Gov. Francis Nicholson subscribed $125. The act authorized the purchase of 50 acres, including the said "healing fountains." Miraculous cures were reported from the use of these waters, which are still used for the supply of Charlotte Hall School, also a provincial foundation. It is of interest that the recognition of the powers of these springs formed part of the first Thanksgiving proclamation in Maryland.

Medical Points in Grand Jury Report.—The report of the grand jury contains some points of medical interest. The sanitary condition of the city is pronounced very unsatisfactory. Diphtheria, scarlet fever and typhoid fever during May, June and July were doubly as prevalent as last year. The improvements recommended are a modern sewerage system, improved pavements, abolition of slaughter houses in the city limits, a hospital for infectious diseases, improvement of the city's water supply, and the discontinuance of the practice of collecting refuse from hotels and lunch rooms by day. A lavatory at the entrance of the park is recommended. About three-fourths of the cases that come before the grand jury are of negroes, who in nearly all cases live together as man and

wife, without regard to the marriage law. It would be wise to compel these people to marry; if not, to punish them for adultery, thereby reducing the cause for a great deal of crime. Castration is suggested for the crime of assault on women, and especially on little girls, and the enactment of a law to that effect by the next legislature of Maryland, which meets this winter, is heartily recommended. Hanging no longer deters this class of depraved criminals. Such a bill was introduced in the last Pennsylvania legislature. The growing cocain habit is considered responsible for a great deal of crime.

MISSISSIPPI.

Publication of Results of Examinations.—The Mississippi State Board of Health, at its last meeting, May, 1903, adopted the following:

WHEREAS, The experience of this board shows a rapidly increasing number of applicants for license to practice medicine, who are decidedly deficient in the elementary branches of an English education and who are unable to comprehend the meaning of many plainly-written questions; whose early education is so meager that it is impossible for them to grasp the principles of medicine. Since this is an injustice to the public, and dangerous to the lives and health of the people of the State of Mississippi, be it

Resolved, That, in future, the names of the applicants who fail before this board, as well as the names of those who pass, shall be given out for publication, with the names of the medical colleges of which they are graduates. And, further, be it

Resolved, That the secretary of this board shall transmit to the various medical colleges whose graduates appear before this board a list of students from their colleges who fail, with the request that greater requirements in the elementary branches of an English education be made of students who matriculate at their schools.

NEW YORK.

On Road to Recovery.—Dr. George Blumer, formerly director of the Bender Laboratory, Albany, who was operated on for appendicitis September 1, is making a good recovery.

Pure Water for Lockport.—The fire and water committee of the common council was granted permission by the council to issue bonds for $2,000 and to use it for the employment of water experts and to sink test wells.

Barber Examiners.—The State Board of Barber Examiners has announced that it will begin prosecution immediately of the barbers of the state who have failed to secure licenses. A fine of $10 or 30 days in jail is provided.

Dinner for Dr. White.—Dr. William A. White, Binghamton, who has recently been made superintendent of the Government Hospital for the Insane, Washington, was given a farewell dinner by a large number of Binghamton friends, August 31. The employes of the hospital have presented Dr. White with a handsome Turkish rug.

New York City.

A Fasting Man.—A press builder of Brooklyn has undertaken a forty-day fast to demonstrate that it is possible for a man to live and work well on a diet of water. He began the present fast on August 22, at which time he weighed 173 pounds. On a former occasion, it is said, he went without eating for nearly three weeks.

Suspension, Protest, Reinstatement.—The suspension of one of the house physicians of Bellevue Hospital, Dr. W. B. Jones, has resulted in the drawing up of a formal protest by the house staff for presentation to the board of medical inspectors. The document complains of the uncivil manner in which the members of the house staff are treated by the superintendent of nurses, and asks that the authority of the superintendent be defined. Dr. Jones has been reinstated on condition that the authority of the superintendent is always to be recognized.

Research in Pathology and Bacteriology.—Cornell University Medical College has provided for a chair of experimental pathology and bacteriology to carry on research work, independently of the regular instruction given to undergraduates. Dr. Bertram H. Buxton is to be in charge, and will be assisted by Dr. Victor C. Vaughan, Jr. The pathologic organic chemistry, so intimately associated with all the problems of disordered metabolism, will be under the direction of Mr. Beebe. This work is to be entirely distinct from all undergraduate or postgraduate instruction and purely for the advancement of scientific knowledge, and is to be conducted in the Loomis Laboratory, a building originally designed especially for this purpose.

Health Department Projects.—It is the purpose of the health department to erect a one-story building next to the department's building, wherein medical aid will be rendered by the health department physicians to poor consumptives. A new hospital for the treatment of trachoma cases from the public schools is to be established in October, and hospitals for the same purpose are to be opened in the boroughs of Brooklyn and the Bronx. It is also planned to inaugurate an extensive system of sewerage and drainage near Coney Island and Sheepshead Bay and on Staten Island in the hope that mosquitoes and malaria may thus be exterminated. This last project will, of course, be expensive, but is to be paid for by assessments on the property benefited.

PENNSYLVANIA.

Philadelphia.

Increase in Typhoid.—Typhoid fever showed an increase for the week ended September 12, there being 135 new cases reported, as against 104 for the week before. The feeling prevails that smallpox is under control, there being only 7 new cases for the week.

Health Department and School Board Co-operate.—The department of health and the board of education are to co-operate in the inspection of the pupils of the public schools to determine in each case whether the child is properly protected by vaccination. When such protection does not exist parents are to be urged to have vaccination done either by the family physician or at the city's expense by a vaccine physician. Pennsylvania is much in need of a compulsory vaccination law.

Phipps Institute Chartered.—A charter has been granted to the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. The managers are now in a position to make plans for the permanent institution, involving an expenditure of $1,000,000, the gift of Henry Phipps. It has not been decided where the institute will be permanently located. The idea of the president seems to be that a thickly-populated section should be chosen, such as that now occupied by the temporary institute. The directors for the first year are Henry Phipps, Dr. Lawrence Flick of Philadelphia, president, and George E. Gordon of New York. An attempt will be made to have the International Congress of Tuberculosis meet at the institute in 1905.

SOUTH DAKOTA.

Adopt Resolutions.—The State Medical Society, at its recent meeting, adopted the resolutions concerning the examination of the eyes and ears of school children, which were recommended by the American Medical Association.

Personal.—Dr. James A. Somerville, for two years physician for the State Soldiers' Home, has resigned, and Dr. William S. Bentley, Gary, has been appointed to succeed him.——Dr. Romeo R. Stevenson, Sioux Falls, has returned from a six months' trip to Europe.

Law Constitutional But Not Retroactive.—Dr. Gilbert Loeffler, Yankton, who was arrested a short time ago by the authorities of Minnehaha County on the charge of having come to the county to practice without having paid the $500 itinerant physician's license required by the medical examiner law of the last legislature, has been discharged. Judge Jones held that the law does not apply to physicians who were practicing in the state when the law went into effect July 1, 1903. The decision in no way affects the constitutionality of the law.

GENERAL.

Yellow Fever in Mexico.—No particular change is reported in the yellow fever situation in Mexico. Considerable financial loss is reported from Texas cities, due to the interruption of commerce.

Queen's Hospital, Hawaii, Report.—The biennial meeting of the Queen's Hospital Corporation, Honolulu, was held August 20. The number of patients admitted in 24 months was 1,398, of whom 522 were Hawaiians, 232 Americans, 165 Portuguese, etc. There were 95 major and 128 minor operations; and 92 deaths, which was a percentage of 6.28 per cent. Under agreement with the U. S. Public Health and Marine-Hospital Service 237 American seamen, of whom 41 were Hawaiian born, were admitted, and were treated by marine-hospital surgeons.

An Impostor.—Dr. J. H. Musser, Philadelphia, wishes to warn the profession concerning a young man who pretends to be his nephew, and on various pretexts secures money—mostly from Dr. Musser's personal friends. Dr. Musser has no nephew by the name of Musser, and knows of no one who dares use his name in any scheme whatever. Mr. P. Corzelius, representing the American Medical Association, has a letter from Dr. Musser, as well as other means of identity for the purpose of carrying on his work. Dr. Musser wishes other journals to circulate this warning.

Eddyism in Hawaii.—Hawaiian sorcerers and witch-doctors have taken up Eddyism and find it right along their line. At-

tention has been called to this by the recent death of a sick man from being beaten on the head with a heavy bible. A native by the name of Makaio has been sentenced to a term of two years for manslaughter, for prescribing the above treatment. He alleged that he directed simply the placing of the bible on the man. The widow alleged that he directed the more vigorous application, which she gave. His description of his satisfaction with Eddyism as a treatment is interesting.

The Cuban **Plague Scare: Is It Yellow Fever?**—The alleged disease at Daiquiri, near Santiago, Cuba, continues to cause much remark in the lay press. The latest development is the assertion of Dr. A. M. Fernandez Ybarra, who has recently come from Cuba, that yellow fever exists in Cuba, and is kept secret by the officials to prevent the United States from stepping in and establishing a quarantine, as is agreed by the treaty in case of an epidemic of yellow fever. He alleges that cases of yellow fever are called remittent fever, pernicious malarial fever, malignant jaundice, etc. In reply to this assertion, the United States Public Health and Marine-Hospital Service denies the presence of yellow fever, and declares that the statements of Dr. Ybarra are based on misinformation.

CANADA.

Spitting in Montreal.—The Woman's Christian Association of Montreal is making strenuous efforts to prevent spitting in the streets of that city. A deputation of the members waited on the mayor last week and presented statistics showing the prevalence of the habit.

Ontario Board of Health.—The Ontario government has appointed the following to compose the Ontario Board of Health for the next three years: Dr. Edward E. Kitchen, St. George, chairman; Dr. Alexander Thompson, Strathroy; Dr. R. P. Boucher, Peterboro; Dr. Wm. H. Oldright, Toronto; Dr. John Douglass, Coburg; Dr. J. J. Cassidy, Toronto.

St. Francis District Medical Association of the eastern townships of Quebec held its annual meeting at Sherbrooke, September 10. The election of officers resulted as follows: President, Dr. L. C. Bachaud; vice-presidents, Drs. J. McCabe and A. J. Beique; secretary, Dr. F. A. Gadbois; assistant secretary, Dr. Williams; council, Drs. Farrell, Austin and Carmichael.

Canned Vegetables Analyzed.—The chemists of the Inland Revenue Department at Ottawa have just completed an analysis of 100 samples of canned vegetables. No chemical preservative was detected in any sample. All save two were found in good condition. In two instances copper was found in peas, but only a trace, and there was no evidence that it was put there for the purpose of intensifying color.

Much Typhoid.—The report for August of the Montreal General Hospital shows that 243 patients were admitted into the wards during that month, that 217 were discharged and that 18 died. A great increase in the number of typhoid fever cases was reported, the capacity of the institution being severely taxed. At one time there were 55 cases, as compared with 15 in the corresponding month of 1902. In the out-door department there were 2,904 consultations. In July there were 280 patients and 21 deaths.

Executive Health Officers of Ontario.—The eighteenth annual meeting of the Association of Executive Health Officers of Ontario was held at Peterboro, September 9 and 10, under the presidency of Dr. Thomas MacFarlane of Ottawa, chief analyst for the Dominion government. A discussion took place on a paper submitted by Dr. W. T. Connell, professor of pathology in Queen's University, on "A Water-Borne Epidemic of Typhoid Fever," and on a paper read by Dr. McNulty of Peterboro on "The Etiology and Suppression of Typhoid Epidemics." Another paper which excited keen discussion was one by Dr. Shaw of Keene on "The County Medical Health Officer," showing that there was a general feeling favoring a change that would substitute county and district health officers for township officers. A resolution was passed instructing the executive committee of the association to bring to the attention of the provincial government the necessity of some form of military drill being introduced into the public schools of the province. The election of officers resulted as follows: President, Dr. J. W. Lane, Mallorytown; vice-president, Dr. C. A. Bowlby, London; secretary, Dr. Hodgetts, Toronto; executive council, Dr. P. H. Bryce, Toronto; W. Chipman, C.E. Toronto; Dr. J. Shaw, Keene; Mr. W. S. Richards, Chatham, and Dr. Boucher, Peterboro.

FOREIGN.

Typhus in China.—A severe epidemic of typhus is reported (via London) in the interior of China. Ten thousand persons have died.

Thousands for Roman Sanitarium.—Signor Pietro Cartoni, a rich Italian farmer, has given $190,000 for a tuberculosis sanitarium outside the city of Rome.

Biologic Blood Test Officially Adopted in Vienna.—The institute for serotherapy connected with the Vienna University has been empowered to furnish prepared serum for the biologic blood test for medicolegal testimony.

Statue to Ollier.—The model has been completed for the bronze statue of the late Professor Ollier which is to be erected in some public square in Lyons. There is to be only the life-size figure of the surgeon in his robe, on a simple granite pedestal.

Australia Wants Good Food for the Army.—A law has been passed in Australia, prescribing a penalty of three years' hard labor for supplying or knowingly receiving supplies for the army inferior to specifications. This includes contractors or purveyors and officials of the army supervising such matters.

Von Behring Honored.—The Emperor of Germany has conferred the title of *Wirklicher Geheimer Rath*, or actual privy councilor, on Prof. E. von Behring—a rare distinction. It is the first time that it has been given to a member of the profession who has not gained eminence as a surgeon, as was the case with Esmarch and von Bergmann.

Plague in Marseilles.—Eleven cases of bubonic plague with seven deaths occurred in Marseilles, France, the first of this month. They originated from a steamer with a cargo of rags from Constantinople. Prompt disinfection was enforced and the spread of the plague, it is thought, has been prevented. Cable reports state that there is little doubt of the identity of the plague.

Reduction of Lead-Poisoning in Germany.—The hospital statistics for Prussia show that the number of persons treated for lead-poisoning has fallen from 1,624 in 1899 to 1,383 in 1901. The total number of male patients admitted to the hospitals has increased during this time from 371,378 to 502,113, showing that the reduction in the cases of lead-poisoning is a reality.

Investigation of Substances Producing Radium.—The Vienna Academy of Sciences has appointed a committee, which is already at work, studying the pitchblende, the substance from which radium is derived. It occurs in profusion in the mineral-bearing mountains of Bohemia. Baron Auer von Welsbach, whose name is so familiar to Americans, has placed his extensive works and laboratories at the disposal of the committee.

The Next French Congress of Alienists and Neurologists.—The thirteenth congress was held at Brussels as previously mentioned. An interesting feature of the meeting was the trip to the family colony at Gheel, which has been in operation for centuries and is always cited by advocates of the family colony plan. The next congress will be held at Pau in August, 1904. Brissaud will preside and the following questions have been appointed for discussion; Organic Dementia; Motor Localization in the Cord, and the Criminal Insane.

Remuneration for Contract Practice in Germany.—The official sickness insurance societies of Saxony have recently published their annual report. It shows that the 2,463 societies in the kingdom paid for medical attendance during 1899, 4,867,008 marks, or about $1,234,000, equal to 4.25 marks, or $1.06 per member. This is an increase of 22 cents per member during the last five years. About 21.75 per cent. of the total income of the societies is paid out for medical attendance. These figures are above the average, and are regarded as an instance of benefit derived from organization of the profession.

Attempt at Suicide with Typhoid Cultures.—A young woman who had access to the medical laboratory connected with the Paris Charité hospital took from the incubator two tubes containing virulent cultures of the typhoid bacillus and swallowed the contents. The case is described in the last *Archives Gén. de Méd.* as a laboratory experiment demonstrating with mathematical exactness the data that have been gleaned from experimental research and by observation at the bedside. There were no symptoms for two days, then violent headache and by the sixth day the patient could not leave her bed. The temperature began to rise the seventh day, and after this the typhoid fever ran the customary course. She recovered in due time, and four months later was delivered of a living child.

The Leipsic "Verband."—This is the abbreviated name by which the German Association for the Relief of the Economic Conditions of Members of the Medical Profession is known in Germany. It was founded only a few years ago to supply advice and material aid to physicians struggling to maintain

their independence in contract practice or under other disadvantages. The Verband has aided the medical officers of the sickness insurance societies at Gera, Mühlhausen and elsewhere and warned other physicians not to take the places resigned by the officers on account of the intolerable conditions prevailing. The recent legislation on sickness insurance has brought numbers of new recruits into the association until it now has 8,933 members. At present it has seven places on its list where it is assisting the physicians, both materially and morally, in their resistance to the degradation of the profession by the sickness insurance societies. At Constance troubles of this nature have just been satisfactorily settled, thanks to its mediation.

Denunciations of Pasteur Treatment of Hydrophobia in Italy.—The *Journal de Méd. de Paris* never misses an opportunity to cast discredit on Pasteur treatment, and, in fact, Lutaud, the editor, has never accepted the science of bacteriology with the same seriousness as the rest of the medical world. The last issue of that journal contains a letter from Dr. C. Ruata, professor of hygiene at Perugia, commenting on the recent death of 4 persons at Novara who had been bitten by a rabid dog and who had taken a course of treatment at the Pasteur Institute at Milan. Ruata's communication also appears in certain Italian papers. He asserts that since the Pasteur institutes have been introduced into Italy the number of deaths from hydrophobia has constantly increased, whereas they used to average 65 a year, during the last fourteen years, since the institutes were organized, the average has risen to 85. About 3,000 persons are treated each year in the nine institutes in Italy, and the number of deaths has risen by a third. He argues that this state of things should be changed and prophylactic hygienic measures adopted instead of the false security imparted by the Pasteur institutes. The patients whom they report as cured probably never had the disease and would have remained in better health without it. Lutaud comments on the letter that Ruata's words will certainly attract attention where "science is not hypnotized by the glory of the gr-r-r-reat Pasteur."

Correspondence.

Tetanus in the South at the Christmas Celebration.

SAN ANTONIO, TEX., Sept. 9, 1903.

To the Editor:—Reading the editorial in THE JOURNAL, August 29, giving the astounding number of the last Fourth of July tetanus cases, it occurred to me to call your attention to the fact that the number of tetanus victims of the blank cartridge will be much greater if you include those which result during the Christmas celebration in the south.

On my arrival from the north to this city about four years ago I was pleasantly surprised to find how orderly and quietly the people here celebrate the Fourth of July. Not a single accident case was reported in the press; but my surprise was still greater when Christmas day came: Fire crackers, pistols and cannons were all brought into use in trying to make up for the Fourth of July. The celebration is in part kept up till after the New Year's day, and certainly, the usual accidents followed by tetanus are not wanting. The last Christmas celebration carried off two victims of tetanus, to my knowledge: a colored boy of 8 and a young white girl of 16. I am told that the same sort of Christmas celebration is going on all over the south. How far this is true, I think it will be worth while for you to investigate.

R. ROBINSON, M.D.

Sawing Off a Plaster Cast.

OAKLAND, CAL., Sept. 7, 1903.

To the Editor:—In THE JOURNAL, September 5, Dr. Bechtol speaks under New Appliances of the Gigli saw in the removal of plaster-of-paris casts, and describes the method. Whenever I think I have discovered something new I always think of the saying, "Go abroad, young man." The method and saw described have been in use several years on this coast. One of the first *x*-ray photographs taken in the Waldeck Hospital about seven years ago shows the saw in the cast, as it was left under the cast until the plaster had set; which is better than removing it while the plaster is wet and soft. If not the Gigli saw, a piece of twisted or nicked steel wire will do. It is well to put on a light gauze bandage over the cotton before covering up the wire with the plaster, because if the cotton catches in the wire it will not work. Put vaselin on the wire or it will get rusty and break easily if you should leave it in over night.

The idea is all right when one is sawing over a concave surface, but when sawing over a convexity the saw is liable to seek the level of the two resisting ends and cut anything that presses along its route. The saw is working in the dark, as it were. After the Doctor has sawed down on a few patellas and malleoli, and cut open the back of the leg a few times, and spoiled a few dollar and a half Gigli saws, he may resort to the old-fashioned ten-cent cobbler's knife which every one knows how to use and has no attachments. By filing it so as to get a rough wire edge and running it over the dressing just before it sets, it will cut easily, and you know what you are cutting. If you have a compound fracture and want a window in your dressing the saws are useless.

M. LEWIS EMERSON, M.D.

Illegally Reprinting Articles from the Journal.

NEW YORK, Aug. 18, 1903.

To the Editor:—My attention has been called to a reprint of my article on "Anesthol" (which appeared in THE JOURNAL, Feb. 28 and March 7, 1903), made and circulated by Messrs. Lehn & Fink, a wholesale drug firm of New York. These reprints were made entirely without my knowledge. I promptly wrote to Messrs. Lehn & Fink, asking for an explanation. The answer I received from them was most unsatisfactory, carefully avoiding the point at issue: "lack of my (the author's) consent for making the reprints," and not even offering an apology for their conduct.

I can but protest against the method adopted by this firm, viz., using a scientific article for commercial purposes, without securing the writer's consent prior to their doing so. I need not assure you that had they asked me beforehand I would have refused their proposition most emphatically. Is there no way of protecting a professional man against such abuses? WILLY MEYER.

NOTE.—Everything printed in THE JOURNAL of the American Medical Association is copyrighted, and no one has a right to reprint any of its contents without permission, consequently, Lehn & Fink are liable to prosecution for violating the copyright laws. It is to prevent just such occurrences as this that THE JOURNAL goes to the expense of copyrighting all of its contents, and such a violation of law and the rights and privileges of others, we are happy to say, seldom occurs.

The Proper Perineal Prostatectomy Incision.

GLASGOW, Aug. 29, 1903.

To the Editor:—The incision in question is undoubtedly the inverted Y, as advocated by Professor Senn in THE JOURNAL, August 15, and there can be little doubt that its more general acceptance will be hastened by the support its practice has just secured at the hands of an authority so widely accepted as Professor Senn's.

The inverted Y incision I have practiced and taught for years as the proper incision for perineal prostatectomy. Among the earliest of my references to it may be noted a description of it in a paper on prostatectomy in the *Lancet*, April 14, 1894, and in a discussion in the New York Academy of Medicine (reported in the *Medical News*, 1898) it was subjected to just such unfavorable criticism as Professor Senn now seeks to disarm, and which, though coming from other quarters as well, has never affected my belief in its merits. I rarely make use of any other. JAS. H. NICOLL,

Professor of Surgery, Andersonian College, Glasgow.

The Lust of Slander.

ROSELLE, ILL., Sept. 14, 1903.

To the Editor:—In possible explanation of the "Leflingwell accusation," referred to in your editorial, "The Lust of

Slander," in THE JOURNAL, September 12, permit me to suggest that Leffingwell has made to serve his purpose a statement which, in itself true and authenticated, does in no wise refer to vivisectors and their work. Krafft-Ebing, in his "Psychopathia Sexualis," page 84 et seq., says, in discussing sadism:

> In numerous cases, sadistically perverse men, that are afraid of criminal acts with human beings, or that care only for the sight of the suffering of a sensitive being, make use of the sight of dying animals, or torture animals, to stimulate or excite their lust. (Then follow some cases.) Thus, in these and similar cases, the vita sexualis is so constituted, *ab origine*, that the sight of blood, death, etc., excites lustful feeling.

I think it very probable that Leffingwell has used the above quotation for his purpose. The fact that it does not at all serve, except through the lie, and that the whole argument is *"an den Haaren herbei gezogen,"* has troubled him but little.

H. J. ACHARD.

The Physiologic Generation Cycle of Woman.

MAHANOY CITY, PA., Sept. 9, 1903.

To the Editor:—In THE JOURNAL, September 5, page 627, synopsis of Dr. Jennie G. Drennan's paper on the "Physiologic Generation Cycle of Woman," the following statement is made:

> In mammals and primitive woman ovulation occurs at distinct periods of the year and at no other time. Mating with the primitive woman was much like that of the brute creation now; as soon as she was sexually mature she married and entered on the physiologic cycle of a mammal, etc.

It has seemed to me in the course of my studies that ovulation depended more on the abundance of food at the command of woman than any other cause, regardless of the stage at which she lived in the history of civilization. I wish Dr. Drennan would state the grounds on which she bases her statement, for it is a very interesting scientific fact if primitive woman differs so radically from her sister in civilization.

GEO. W. REESE.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

LIMITS OF CONSANGUINEOUS MARRIAGES.

————, ——., Sept. 12, 1903.

To the Editor:—Will you kindly inform me through the "Queries and Minor Notes" whether the offspring from the marriage of second cousins are generally considered beyond the defects and deformities resulting from consanguinity? If not, what per cent. are considered so afflicted? E. G. B.

ANS.—A second cousin has only half the common heredity of a first cousin. According to Galton's calculation, their respective amounts can be represented by 1/8 and 1/16; therefore, the chances of morbid heredity would not be more than one-half, probably less. There has been no legislation against the marriage of second cousins anywhere, so far as we know, and we believe such marriages are generally considered comparatively safe as regards offspring. Still, in special cases, there might be a concentration of the common heredity even beyond this degree of relationship. As to in what percentage of cases this would occur, we know of no way of determining.

CONDUCT AFTER SALE OF PRACTICE AND SUPPOSED PERMANENT REMOVAL.

CITY OF MEXICO, Aug. 21, 1903.

To the Editor:—Please publish your opinion of the ethics of the following case: Three years ago A hired B to go to a foreign country, where A was established, and assist him. B was to have a salary the first year and a third interest in the business the second year. At the beginning of the second year B prefers an increased salary to the third interest, and is accommodated, but still claims the right to the third interest at the end of the second year. This is agreed to. During the second year B becomes dissatisfied on account of ill health, and desires to return to the United States. A induces C to purchase the interest of B in the business, which he does, paying therefor $1,000, which B accepts and immediately returns to the United States, having previously introduced C to as many of his patrons as the time permitted. No contract or papers were signed. B returns in a few months and resumes independent practice, claiming that he has a right to do so. Did he act honorably? X. Y. Z.

ANS.—To the *ex parte* statement made by our inquirer, there can be but one answer, and that is that B did not act honorably, to say the least. Furthermore, there certainly is redress for C if he should go to law. C paid $1,000 for B's practice and good will, which meant that B must give up his practice and good will. By his returning and entering into practice again, he took back the two things that he sold. He should, therefore, give back the $1,000.

RIGORS IN TYPHOID WITH HIGH TEMPERATURE.

AMERICUS, GA., Aug. 31, 1903.

To the Editor:—In typhoid fever, characterized by high temperature, rigors occur when the temperature is the highest. These rigors are not due to malaria; the patient will have them when thoroughly cinchonized. Can you give me the cause of this?

J. C. FIELD, M.D.

ANS.—In typhoid, chills occasionally occur where no clear explanation of their cause can be offered. Perhaps the most frequent time of the occurrence of severe chills is during convalescence, when there may be repeated rigors. Why this is so is not plain. Of course, chills at the onset are not so very unusual. And complications, such as pneumonia, parotitis, malaria or secondary infection with pyogenic organisms, may be ushered in by a chill, and where antipyrin, acetanilid or phenacetin have been used with a free hand chills are not infrequent. Perhaps the chills that occur during the course of the disease are at times due to the sudden invasion of the blood by unusually large numbers of typhoid bacilli, or the unusually rapid development of the germs within the blood. Complications that are often unrecognizable, as in the mesenteric glands or gall bladder, may explain them at times. Constipation, with its attendant absorptive toxemia, is held by some to be the cause of some of the chills of typhoid fever. Until more is known of the real physics and chemistry of chill production in general, some of the chills of typhoid must go unexplained. Certainly, in the cases mentioned by our correspondent, malaria is ruled out as a cause, for not only does malaria, when it complicates typhoid, usually manifest itself during convalescence, but it will not resist quinin if freely given.

A full discussion of the subject of chills in typhoid fever will be found in Osler's "Studies on Typhoid Fever," Series II, in the Johns Hopkins Hospital Reports, Vol. IV, and in Vol. VIII, p. 443, et seq. See, also, the recent article by Dr. Delafield in the *Medical Record*, September 12, on "Post-typhoid Sepsis," abstracted in our next issue.

Miscellany.

Information Wanted of a Fraudulent Agent.—Dr. W. H. Snyder, who recently reported a fraudulent solicitor for *Colliers' Weekly*, reports that Mr. L. H. Bortner, the local manager for Collier, called and fulfilled the contract, although they did not receive the money. Mr. Bortner, whose address is 50 Law Building, Toledo, Ohio, wishes information of any other physician who subscribed with this agent or information as to the agent's whereabouts.

Marriages.

JAMES INGERSOLL WERNHAM, M.D., to Miss Winifred Patrick, both of Marengo, Ill., September 9.

OSCAR L. FULLERTON, M.D., Redding, Iowa, to Miss Eva L. Johnson of Neva, Mo., September 2.

CLIFTON MEREDITH MILLER, M.D., Richmond, Va., to Miss Mary Ashley Bell of Fluvanna County, Va., at Wilmington, Va., September 3.

JAMES V. CORNISH, M.D., Quincy, Ill., to Miss Lettie S. McConnell of Ellington Township, Adams County, Ill., September 6.

Deaths.

Charles F. W. Myers, M.D. College of Physicians and Surgeons, New York, 1874, a member of the American Medical Association; lieutenant colonel and medical director, N. G., N. J., and a member of the Association of Military Surgeons of the United States, who had been in ill health for several years, died August 31, from apoplexy, at his home in Paterson, N. J., aged 54.

Nelson V. Prewitt, M.D. University of Virginia, Charlottesville, 1893, of Winchester, Ky., a member of the Clark County Medical Society, Kentucky Valley Medical Association, Kentucky State Medical Association and the American Medical

Association, died at St. Joseph's Hospital, Lexington, Ky., September 1, 36 hours after an operation for appendicitis, aged 32.

William Cary Barrett, M.D. University of Buffalo, N. Y., 1880, dean of the dental department of the University of Buffalo, oral surgeon at the Buffalo General Hospital and eminent as a practitioner and teacher of dental surgery and pathology, died at Bad-Nauheim, Germany, August 22, from heart disease after an illness of a year, aged 69.

K. O. Austin, M.D. College of Physicians and Surgeons of Chicago, 1896, was found dead in his office in Chicago, September 7, aged 38. The coroner's jury found that deceased had taken hydrocyanic acid with suicidal intent while laboring under great mental depression following determined attempts to rid himself of his craving for morphin.

Harry De Haven Cameron, M.D. College of Physicians and Surgeons, New York, 1889, of Brooklyn, and surgeon of Troop C, N. G., N. Y., who served during the Spanish-American War in Porto Rico, died from consumption, September 4, at Pony, Mont., after a long illness, aged 37.

William T. Dalby, M.D. Omaha Medical College, 1885, health commissioner of Salt Lake City for four years, and local surgeon of the Union Pacific Railway, died at his home in Salt Lake City, September 7, from cancer of the stomach, after a lingering illness, aged 44.

Jesse C. Pfaffer, M.D. Medico-Chirurgical College, Philadelphia, 1902, interne in charge of the orthopedic department of the Medico-Chirurgical Hospital, died at St. Joseph's Hospital, Philadelphia, September 6, from typhoid fever after an illness of ten days, aged 22.

Emily R. Robbins, M.D. Penn Medical University, Philadelphia, 1857, said to have been the first woman to obtain a medical diploma in America, died at her home in Philadelphia, September 1, aged 71.

Henry S. Cunningham, M.D. Starling Medical College, Columbus, 1865, for twenty-five years a resident of Indianapolis, died, at his home in Alva, Okla., September 5, after an illness of five years, aged 64.

James A. Mawris, M.D. Albany (N. Y.) Medical College, 1853, surgeon of the 178th New York Volunteer Infantry in the Civil War, died at his home in Lafayette, N. Y., September 2, aged 78.

Alonzo Richardson Morgan, M.D. Homeopathic Medical College, Philadelphia, 1852, of Waterbury, Conn., died at the Massachusetts Homeopathic Hospital, Boston, August 31, aged 73.

J. T. Walpole Kerns, M.D. Marion-Sims College of Medicine, St. Louis, 1892, died at his home in Bellaire, Ohio, September 8, from Bright's disease, after an illness of two months, aged 62.

Quincy J. Winsor, M.D. Western Reserve University, Cleveland, 1884, was found dead at his home in Cleveland, September 7, from asphyxiation by gas, or heart disease, aged 40.

John M. Kitchens, M.D. Medical College of Alabama, Mobile, 1885, died at his home in Hartsells, August 30, from tuberculosis of the liver, after an illness of eight weeks, aged 50.

Henry S. Ballou, M.D. Bellevue Hospital Medical College, New York, 1880, died at his home in Monument, Colo., September 1, from eczema, after an illness of fourteen weeks, aged 55.

Luis P. Walton, M.D. College of Physicians and Surgeons, New York, 1870, of New York City, died suddenly from heart disease at the Bath Club, London, Eng., September 8.

James C. Clark, M.D. Atlanta (Ga.) Medical College, 1873, died at his home in Covington, Ga., September 7, after an illness of six weeks, from typhoid fever, aged 54.

Samuel C. Cravens, M.D. Rush Medical College, Chicago, 1866, died at his home in Bloomfield, Ind., September 5, from paralysis, after an illness of two days, aged 64.

Orville C. Bordwell, M.D. Eclectic Medical Institute, Cincinnati, died at Newfane, Ohio, August 29, aged 71.

Deaths Abroad.

Joseph Schnetter, M.D. University of Würzburg, Germany, for forty years a practitioner of New York City, but later a resident of Karlsruhe, Germany, died at Herrenalb, Black Forest, August 16, aged 81.

John Thomas Griffith, M.D. St. Andrews, Scotland, 1859; F.R.C.S. Eng., 1850; M.R.C.S., 1845; L.S.A., 1849, for more than thirty years a practitioner of London, and a civil surgeon in the South African campaign, died recently at Weybridge, Surrey, from paralysis, aged 82.

Association News.

The Prize Essay of the American Medical Association.

A gold medal, value $100, is offered annually by the American Medical Association for the best essay on any subject relating to medicine or surgery. The successful contestant for this prize may choose to receive either, 1, the gold medal, or 2, a bronze replica of the medal and the remainder of the appropriation (about $90) in money; or 3, the entire amount ($100) in money. Since the Association annually sets apart the sum of $500 for original research, this prize is offered to stimulate the production of a superior practical essay based either on experimental studies or clinical investigation or both. The committee will give preference to essays having the greatest brevity consistent with thorough consideration of the subject, and recommends that essays shall not exceed 5,000 words. The committee, while not restricting the choice of subjects, recommends as an important subject for consideration: "The Therapeutic Value of the Digestive Ferments." Competing essays must be typewritten and must bear no mark revealing their authorship; but instead of the name of the author there must appear on each essay a motto and accompanying each essay must be sent a sealed envelope containing the name of the author and bearing on its outer surface the motto of identification. No envelope will be opened by the committee until a decision has been reached as to the most deserving essay. The other essays will be returned to their respective authors. The committee reserves the right to reject all essays if none are found worthy of the Association medal. Competing essays must be in the hands of the chairman of the committee not later than April 1, 1904.

Committee: LEWIS S. MCMURTRY, Louisville, Ky., Chairman; BURNSIDE FOSTER, St. Paul; M. H. FUSSELL, Philadelphia.

Medical Organization.

MEDICAL ORGANIZATION METHODS AND BENEFITS.

J. N. M'CORMACK.

(*Concluded from page 677.*)

ADMISSION OF FORMER SECTARIANS.

Under the present plan of organization this is a question which each county society must decide for itself. It is a question, too, about which there is room for honest difference of opinion. The habits of thought and prejudices of a lifetime can not be overcome in a day, even though conditions causing them have largely disappeared. There need be no haste about it, and with the element of time, and an abundance of good temper on all sides, a fair and just consideration of the rights and interests of all concerned can be secured. As a matter of expediency it will usually be better not to invite persons about whom there is likely to be any dispute to the initial meeting. Their presence might interfere with the free consideration of the subject which its importance demands, or some injudicious person on either side might give or take offense. After the society is organized it can decide whether or not it will consider the matter then, refer it to a committe to report at some future meeting, or postpone it indefinitely. It will be found that the objections to the admission of these people are usually founded on a misconception of the provisions for it made in the by-laws. If legally registered and otherwise reputable, they are entitled to membership on condition that they have or will sever their connection with all sectarian organizations, and come to us as citizens, not aliens. When so elected they are no longer homeopaths or eclectics, but are promoted to be plain physicians, like the other of us. Many of them are entirely worthy of admission. It will be found that most of them became sectarians by chance, as it were, and attended college and graduated before they really knew anything of sects or systems of medicine. Most of them have been broadened by actual experience until they differ from us in views and methods as little as we differ from each other, and have long been homeopaths or eclectics only in name. Many of them are recognized as physicians of ability, and as powers for good in the community, and if they are willing to

meet the conditions of our invitation, made fair and honorable for them and us, and come into an organization in which they are hopelessly outnumbered, there seems every reason for accepting them, especially as in most sections they are so few in numbers as to be cut off from any society unless they join ours. It is due all concerned that this whole matter should be dealt with in a spirit of the utmost frankness and kindness, so that a suggestion made in the interest of harmony may not, by either accident or design, be turned into an apple of discord. In this connection it may be said that two inquiries have been received as to osteopaths. This is a passing fad which has about settled itself. They do not claim to be physicians and should not be so considered anywhere.

CROOKED STICKS.

In a like way may come up the question of the advisability of admitting to membership those who have been more or less unethical and off color in the past. Each case of this kind will have to be considered and decided on its merits, but it should be done on liberal lines. In a county where no organization worthy of the name existed, and where each physician has been forced to decide all the nice questions of professional conduct as they arose on his individual and untrained judgment, this important part of medical education having been entirely neglected in all our colleges, it will usually be found that there is no well-defined borderland between correct and incorrect methods except on the part of those governed by native gentlemanly instincts. It will often be found that lack of courtesy, or more or less vicious unprofessional methods, have been handed down in both town and country from generation to generation of physicians, and that those now in practice there are largely the victims of this inheritance. In all of these matters, as in the consideration of the sectarian problem, the profession is confronted by a condition, not a theory. Legally and in the public estimation these men are physicians and the profession is held responsible for them whether it will or not. Most of them are not bad men. These things being true, it will be better to give all who will come in a cordial welcome, and for a united profession, kindly and in good faith, to encourage every effort they can be induced to make to refrain from methods into which they drifted through lack of training and environment for which they are not personally responsible. In regard to the whole subject of the admission of members, and still more of their treatment after admission, it should be urged that a spirit of conciliation be substituted for the old one of suspicion, selfishness and ostracism.

In handling all of these questions, and those concerned and affected by them, as in the discharge of all of his duties, the councilor will find constant need for a fair knowledge of human nature, especially as modified in the genus homo medicus, tact, sound judgment, and never-failing good temper.

THE MEETING AND ADDRESS.

His audience selected and assembled, the councilor should proceed with his address, beginning usually with a brief history of the origin and progress of the reorganization movement. The importance of the county societies, their relations to the state association, and the necessity for coincident membership in both, and for the support of the state association as a bond of union and agency for concentrating and carrying out the views of the profession of the state in all matters of public concern, should be fully explained. In a like way the connection of the state organization with the American Medical Association, and the privilege which each one joining his county society has of membership in the national body, should also be fully explained. They should be advised that a full return for the membership fees in all these bodies will be received from their periodicals, to say nothing of the other advantages. The monthly bulletin or journal, or the annual volume of transactions of the state association will be sent free to all members, and the great weekly, THE JOURNAL of the American Medical Association, will go free to all who join that body. The value of these publications in all this work is so great that pains should be taken to make their relation to the membership clear. They all belong to the profession, and it alone receives the profits of their publication. This is as true of THE JOURNAL of the Association as of the state journals. Aside from the desire they have to discharge all the duties of their respective positions, and the justifiable pride they feel in its great success, the Board of Trustees, the Editor and the other officers have no more stock or interest in THE JOURNAL than the humblest member. For these reasons, and because of the many benefits they will receive from it, each of them should be advised to obtain full membership in all these bodies, and blanks should be furnished the secretary for this purpose.

Having made the plan, purposes and privileges of the system of organization plain, he should then take up and deal kindly, but frankly and unsparingly, with existing evils, and their causes and results, in a general way, putting his discussion of these, and of the attainments and possibilities of the profession through union and co-operation in each community, on such a high plane as will make their local dissensions appear very insignificant. The advantages it will bring to them individually—scientific, social and material—the desirable and deserved position it will give the profession in public estimation, as well as the assistance it will give in securing and enforcing needed health and medical legislation, should be dwelt on.

He should also urge that just as the efforts and success of each county society will determine the results of this reform, so the character of the individual physician, each of those present, is to be the potent factor on which the efficiency and standing of that society will depend. It should be represented that no chain can be stronger than its weakest link, and the qualifications and accomplishments which each ought to strive for as a member of a great profession to which he is responsible, and which is equally responsible for him, should be earnestly put before them. It should be insisted that above all things the physician should be the cleanest man in the community in the best sense. He should be the cleanest man physically, because this is of importance in the practice of modern medicine, and a necessity in surgery and obstetrics. A slovenly doctor with soiled clothes, hands and nails is a constant menace. He should be a clean man morally, because he comes into such relations and confidences with families, and especially with young people, as to demand it. He should be the best supported man in his community, because he can not otherwise keep up the education and equipment essential alike to his own reputation and the well-being of the community, and because he is the hardest worked man in it. The lawyer, the banker, the merchant and the laborer go home after a day of toil to a night of rest, but the physician's work, like Joan's, is never done. His home should be a center of refinement and culture, and he should be a well-informed man outside of his profession, an authority on general scientific subjects, or a specialist in some attractive by-science, not only because he represents a learned profession, but because of the mental relief, breadth and power it would give him. In a word, he should be the educated, refined, courteous gentleman whom the best fathers and mothers would chose as an advisor and model for their sons. The qualifications and accomplishments which go to make a gentleman are not possible to all men, on account of inherited or other defects, but if by association and encouragement these can be induced to imitate gentlemen, so far as possible, it will be a great gain for them, the profession and the community.

ORGANIZATION OF THE SOCIETY.

At the conclusion of his address, unless some other arrangement seems more desirable, it will usually be well for the councilor to preside temporarily, and to call for a general discussion of the subject, indicating some suitable person to open it. If an organization is decided on, a good committee should be selected by those present to nominate the officers. Much will depend on the choice of the first officers, and they should not usually be named in open meeting. The secretary especially should be an active, tactful man, living at or near the county seat. The delegate to the state association should be a broad, representative man, who will attend and give his time to the

duties of his office. Following the report of the committee and the election of officers, the constitution and by-laws should be considered and adopted. If possible, the councilor should exhibit the card index outfit for county societies, and instruct the new secretary as to the method of keeping it and its far-reaching purposes. The dues for the county and state societies should always be collected from charter members by the secretary on the day of organization, and from new members when they apply, and the charter should be applied for at once. The best methods for bringing in any physicians in the county who are not present, and for meeting any difficulties likely to arise in making the society a success, should be inquired into while the councilor is present to give the benefit of his experience. Before final adjournment, the program should be arranged for the next meeting, which should always include a lunch, or refreshments in some form, to follow some interesting scientific work. If possible, the councilor should arrange to be present at some future meeting, and to keep in touch and be at the service of the society for any help he can give them. In this connection it should be said that in several states the council has called for volunteers and published a list of leading men distributed over the state or on the border of adjoining states, who will go on invitation and give their assistance to any county society within reach of them. This can easily be made of great assistance to new county societies if experienced and unselfish selections are made, and the plan is suggested for careful consideration.

SMALL AND SPARSELY SETTLED COUNTIES.

To most physicians the glamor of numbers, of a crowd, of elaborate papers and sonorous discussions is always associated with the idea of a successful medical society. Next to the conviction that physicians can not live together in peace, it will be the most difficult of the misconceptions councilors will have to combat. Yet nothing could be further from the truth. The New York Obstetrical Society, one of the most famous and useful of the older organizations in this country, was limited by its charter to fifteen members. When five, eight or ten congenial medical spirits get together and fail to have an interesting and instructive meeting it is not the fault of those who are absent. One of the most useful societies the writer has ever known was organized by him on a chance visit in a county containing but four physicians. They were torn by the usual wrangles and dissensions, and the profession was at a low ebb. Three of them were comparatively young men, and after getting together in their society, and understanding each other, one after the other in turn went away for post-graduate work, the others dividing his work and giving him the proceeds. One of them had a taste and ability for surgery, and by an equitable and satisfactory arrangement he did that part of the practice, which had formerly been sent away or been done by surgeons called from a distance, at far greater expense and probably no better results, or more frequently the cases were left to suffer and die without attempt at relief. Under better business methods a large element in the community which had found it cheaper to change physicians than to settle their accounts, although abundantly able to do so, were induced to contribute their part to such a support of the profession as enabled its members to qualify and equip themselves for the benefit of these as well as their more honest neighbors. This society was as much a blessing to the people of that community as to the profession, and organized and conducted in the proper spirit this will always be true. Of course, much must be left to the discretion of the councilor after he has informed himself as to the conditions by conference with the physicians in such counties, but where as many as three, four or five fairly young, live men can be found it will be better for them to get together and maintain a separate organization. If they can be made to understand it and each other it is a question whether the individual benefits will not be even greater than will come to those of the more densely populated counties. Where there are less than the number indicated, or for any reason a society can not be maintained, in counties of this kind the physicians in them should hold their membership in an adjacent strong society, or two or three such counties should be joined together in a hyphenated society, as provided in the by-laws.

COMPENSATIONS OF COUNCILORS.

At the outset it was intended to recommend that a paid organizer be employed by each state association, who could devote his entire time to the work. Owing to lack of funds and other reasons it appeared more desirable to provide for volunteer workers in smaller fields, with only their actual expenses paid, and finally the council, as an executive committee, with large discretionary powers, and with its individual members as organizers and supervisors of county societies, was the outcome. These expenses should always be paid promptly and cheerfully. As a business proposition the state associations can make no better investment. The other compensations of the councilor are large and varied. It gives him an extensive and desirable acquaintance, broadens his own mental horizon, and offers an opportunity of real good to his fellows almost beyond conception. To return to a county and find harmony and co-operation substituted for dissensions and enmity, to find that some have taken post-graduate courses, that others have taken up their studies at home, and that all, or nearly all, are united for the advancement of the profession, will be his ample reward.

HOUSE OF DELEGATES.

The duties of this body are so fully defined in the by-laws that little more need be said here. Its program should be entirely distinct from that for the general meeting, following it in the same leaflet. The first meeting of the house should be held in the afternoon of the day preceding that fixed for the annual session. By holding an afternoon and evening session then the business may usually be so advanced as to enable delegates to enjoy much of the privileges of the general meetings. Its hall should be commodious and comfortable, with convenient rooms for committees, and sufficiently remote from the general meeting as to avoid interruption from each other, should it become necessary for both bodies to be in session at the same time. At least one session should be devoted to the discussion of the health and medical laws of the state. The state board of health and the state board of medical examiners should be invited to attend and take part in this discussion with the view of securing harmony of views and concert of action in procuring and enforcing such legislation. Detailed reports should be heard as to the condition and needs of the profession in each county, from its delegate, supplemented by suggestions from the councilor of the district. To do all of this properly it may sometimes be necessary for the house to sit while the general meeting is in session on the second or third day, or to remain in session for a day after the general meeting adjourns. As this body will grow in importance and occupy more and more time with a proper discharge of its duties, no one should accept the position of delegate who will not devote himself to the work and remain until it is completed.

THE GENERAL MEETING.

The functions and purposes of the general meeting are so well understood as to require little discussion. Freed from the time-consuming distractions of all miscellaneous business, and relieved of the duty of electing the officers, it can in future devote its entire time to scientific work. The writer recently had the privilege of attending such a meeting. Under a model program, the invocation address of welcome and response were followed by the first symposium, without an intervening motion. During three days but one item of miscellaneous business was suggested, and this was referred to the house of delegates without debate. Under such an arrangement ample time was afforded for the full discussion of papers and scientific reports, the program was completed and the interest was fully sustained until the final adjournment. The majority of physicians take little or no interest in the ordinary legislative proceedings of state associations, and as soon as it is known that these parliamentary wrangles and tedious discussions are things of the past there promises to be a class of attendance and revival of interest very much to be desired.

THE CARD INDEX REGISTER.

Before the profession can be permanently organized, or as a part of such work, it is necessary to know who compose it, where they live, and the professional status and antecedents of each one. This is also necessary as the first step in purging our ranks of the dishonorable and criminal classes—the quacks—who have donned our livery for their own nefarious purposes. Experience in a few states shows that reputable physicians will gladly furnish the information of themselves if it does not involve too much trouble, and it must be had of the disreputable ones, even at much cost and trouble. The difficulties involved in this only emphasize the importance of undertaking it without further delay. As in other phases of organization, the difficulties are exaggerated, and where a live county society exists, except in the large centers of population, they are easily overcome. Once the information is obtained in regard to any individual—a quack, for instance—and a label is put on him, by a systematic exchange of cards between states he can be followed and his status and identity determined anywhere. Likewise, by the use of universal transfer cards, a reputable physician moving to another county or state is at once admitted without delay or duplication of dues.

In order to have this system uniform and economical, the Association has provided a series of cards for all county and state organizations, and has arranged for county and state outfits at wholesale net prices for the benefit of every state in the Union which desires to adopt the system. These state outfits include cabinets and all the necessary record, guide and index cards, with capacity based on the number of physicians in the state, complete and ready for use. The county outfits include a box neatly labeled for each county, with an ample supply of record and transfer cards for members and non-members, and an alphabetical index, except in counties containing large cities, where small cabinets are figured. The cost of the state outfits will vary with the number of physicians. The cost of the county outfits for less than 100 physicians will be about 50 cents each, but in order to get the benefit of these prices it will be necessary to order for all the counties in a state at one time. Fourteen states have ordered the outfits up to this time, and it is suggested that the cards for each county be filled out in the office of the secretary of the state association, arranged ready for use, and sent to the county by the councilor, or by its delegate, from the next meeting. Blanks to collect all this information, and application blanks for new members, to correspond with the record cards, are furnished by the Association to all societies at the bare cost of presswork and material.

In addition to the value of this register for organization purposes, and as a means of suppressing quackery, the Association proposes to make this officially collected and accurate information the basis for a National Medical Directory. Private individuals are now publishing incomplete and misleading directories, including the names of veterinarians, dentists, and many who do not even have as much claim to professional recognition, at a great cost to the profession. A reliable directory would have great monetary value, which legitimately belongs to the profession, and could also be made very profitable to individual members indirectly. For instance, it is proposed to publish the names of all members of their county and state organizations in bold type, with full information as to their education, society affiliations and positions of honor, while the names of non-members would be in small type, with only the year of graduation and a number to indicate the college. As such a directory would naturally, in a great measure, guide insurance and railroad companies and others in choosing between medical men, its importance to members in this one matter can be readily appreciated. It will be equally useful and important in many other ways. THE JOURNAL printing establishment is equipped for getting out such a work, and once set up the same material can be used for the national directory or for any particular state, without duplication, and any of these can be furnished to members at a minimum cost. The outside demands for such a reliable official directory would be large and the profit would go to the Association, which means to the profession, as each member has exactly the same interest in its success and funds.

CONCLUSION.

The Association plan is almost perfect in its conception, scope and purposes, and yet it is believed to be entirely practical. Changes in detail may be required as the work progresses in the various states to adapt it to changed conditions, but these can be easily made. How far its benefits are to be extended to any particular county or state must be determined by its own profession, assisted by every possible influence from the outside when needed. To say that much time and increasing effort will be required to perfect such an organization, that many obstacles will be encountered, and that individuals will fail to do their duty or obstruct the work, is only to say that the undertaking is a vast one, that the agencies relied on are finite and that it is subject to the vicissitudes attending all human endeavor. Our contention is that it is worth all the time, labor and money it will cost, and more. Ours is rapidly becoming a great science. Our leaders are among the greatest of living men. With proper ideals kept constantly before our young men, and the present facilities for attaining them unknown to any other age, and impossible even to the older men of the present generation, with harmony and cooperation made possible and encouraged everywhere, and all supported by a public confidence inevitable because it will be deserved, everything desirable will be brought within reach of the profession. The vexed problem of medical education can then be taken up with confidence and justly and wisely solved. The question of reciprocity in licensure and membership between the states can be settled on some safe and equitable basis. Provision for continuous scientific research and for systematic collective investigation into the causes and prevalence of disease can be made on the broad and generous lines demanded by the great interests involved. Constructive statesmanship can be substituted for the narrow, time-serving political methods of the present in municipal, state and national public health affairs, and our profession, united, educated and ennobled, will then occupy its rightful place as one of the greatest powers for the protection and elevation of the race.

Grundy County (Iowa) Medical Society.

Thirteen physicians of the county met at Traer, September 1, and organized a county medical society.

Ripley County (Ind.) Medical Society.

Dr. George T. MacCoy, Columbus, councilor for the Fourth District, is organizing a county medical society at Versailles.

Whitley County (Ky.) Medical Society.

Dr. Arthur T. McCormack, councilor for the Third District, announces the organization of this society, with Dr. Edwin S. Moss, Williamsburg, president; Dr. C. Garrard Ellison, Williamsburg, vice-president, and Dr. S. Sullivan, Rockholds, secretary and treasurer.

South Dakota Second District Medical Society.

In the September 5 issue of THE JOURNAL, the organization of the Codington County Medical Society was noted. This was incorrect, as the meeting was of physicians of Clark, Codington, Deuel, Grant and Hamlin counties, comprising the Second District of the state.

Catawba County (N. C.) Medical Society.

A number of physicians of the county met at Newton, September 5, and with the assistance of Dr. Thomas E. Anderson, Statesville, organized a county medical society. Dr. James R. Campbell, Newton, was elected president; Dr. W. L. Abernethy, Hickory, vice-president, and Dr. George H. West, Newton, secretary and treasurer.

Milam County (Texas) Medical Association.

Physicians of Milam County met in Cameron, September 4, and organized a county medical society with the following officers: Dr. Edward N. Shaw, Cameron, president; Dr. I. Coleman, Hanover, vice-president; Dr. I. P. Sessions, Rockdale, secretary and treasurer, and Drs. William W. Greer, Cameron; Albert S. Epperson, Cameron, and Charles W. McBurnett, Minerva, censors.

Gaston County (N. C.) Medical Society.

This society was organized at Gastonia, September 5, by State Councilor Dr. Edward C. Register, in accordance with the reorganization plan of the Medical Society of the State of North Carolina and the American Medical Association, with an initial membership of 19. The following officers were elected: President, Dr. Robert M. Reid, Gastonia; vice-president, Dr. J. Brown Wallace, Mount Holly; secretary and treasurer, Dr. Lucius N. Glenn, McAdenville, and censors, Drs. Charles E. Adams, Gastonia; D. A. Garrison, Bessemer City, and John H. Jenkins, Dallas.

Linn County (Iowa) Medical Society.

This society was organized at Cedar Rapids, September 2, with fifty members, under the constitution and by-laws recommended by the American Medical Association, with the following officers: Dr. Ward Woodbridge, Central City, president; Dr. George R. Skinner, Cedar Rapids, vice-president and delegate; Dr. Hollis W. Bender, Cedar Rapids, secretary; Dr. Frank S. Skinner, Marion, treasurer, and Drs. Austin H. Johnson, Cedar Rapids; John Hamilton, Cedar Rapids, and John W. LaGrange, Marion, censors, and Dr. George R. Skinner, Cedar Rapids, delegate to the Iowa State Medical Society.

Portage County (Wis.) Medical Association.

With the aid of Dr. John F. Pritchard, Manitowoc, councilor for the Eighth District, this society was organized at Stevens Point, September 1, with an initial membership of 13. The plan of organization suggested by the American Medical Association was adopted and the following officers and committees elected: Dr. Galen Rood, Stevens Point, president; Dr. Augustus H. Guernsey, Amherst, vice-president; Dr. Carl von Neupert, Jr., Stevens Point, secretary and treasurer; Drs. William F. Atwell, Daniel S. Rice and Carrie A. Frost, all of Stevens Point, censors, and Drs. Frank A. Southwick, Myron G. Rood and John D. Lindores, all of Stevens Point, committee on by-laws.

Societies.

COMING MEETINGS.

Medical Society of the State of Pennsylvania, York, Sept. 22-24.
American Association of Obstetricians and Gynecologists, Chicago, Sept. 22-24.
American Academy of Railway Surgeons, Chicago, Oct. 1-2.
Colorado State Medical Society, Denver, Oct. 6-8.
Medical Association of the District of Columbia, Washington, Oct. 6.
Idaho State Medical Society, Boise, Oct. 8-9.
Mississippi Valley Medical Association, Memphis, Tenn., Oct. 7-9.
Vermont State Medical Society, Bellows Falls, Oct. 15-16.
New York State Medical Association, New York City, Oct. 19-22.

American Academy of Railway Surgeons.—The academy will meet at the Great Northern Hotel, Chicago, October 1 and 2, under the presidency of Dr. Luther Sexton, New Orleans. An interesting program is announced.

Nashville Society of Colored Physicians.—At the annual meeting, September 1, Dr. C. O. Halley was elected president; Dr. W. A. Reed, vice-president; Dr. A. M. Townsend, secretary, and Dr. Preston R. Burrus, treasurer.

Ohio Valley Medical Association.—This organization will hold its next annual meeting in Evansville, Ind., Nov. 12 and 13, 1903. The field of its membership has been extended to cover the four states of Ohio, Indiana, Illinois and Kentucky.

Medical Society of the State of Pennsylvania.—Extensive preparations are being made at York for the entertainment of the members of this society, which holds its annual meeting, September 22-24, under the presidency of Dr. William M. Welch, Philadelphia.

Henry County (Ky.) Medical Society.—At the annual meeting held in New Castle, August 26, Dr. C. R. Martin, Sulphur, was elected president; Dr. John C. Cassity, Eminence, vice-president; Dr. John Nuttall, New Castle, secretary, and Dr. Albert P. Dowden, Eminence, treasurer.

Reading (Pa.) Medical Association.—At the annual meeting held August 31, the following officers were elected; President, Dr. John Shartle; vice-president, Dr. Harry F. Rentschler; secretary, Dr. Clara S. Keiser; treasurer, Dr. Oan J. Thompson; censors, Drs. Fremont W. Frankhauser, Israel Cleaver and James W. Keiser, and curator, Dr. S. Banks Taylor.

Morehouse County (La.) Medical Society.—At the annual meeting Dr. Charles D. Clark, Mer Rouge, was elected president; Dr. A. W. Jones, Jones, vice-president, and Dr. Otis M. Patterson, Bastrop, was re-elected secretary and treasurer. The society adopted the new constitution and by-laws of the Louisiana State Medical Society, in order to affiliate with that organization.

West Tennessee Medical, Dental and Pharmaceutical Society.—This society, whose membership is made up from colored physicians, dentists and druggists, was organized at Humboldt, August 26 and 27. The following officers were elected: President, Dr. I. S. Sawyers, Humboldt; vice-presidents, Dr. R. G. Martin, Memphis, and T. L. Anderson, Ph. C., Jackson; secretary, W. D. Holder, D.D.S., Jackson; corresponding secretary, Dr. W. A. Cocolough, and treasurer, Dr. John L. Light, Jackson.

Mississippi Valley Medical Association.—The 1903 meeting of the Mississippi Valley Medical Association will be held at Memphis, Tenn., Oct. 7-9, 1903. An excellent program has been prepared and a large attendance is anticipated. The profession of the lower part of the Mississippi Valley, it is expected, will be largely represented at this meeting, and it is to be hoped that there may be a good attendance from the northern part of the middle west. Memphis is accessible by direct railroad connection with most cities of the middle west.

New Hampshire Surgical Club.—This organization held its eighth annual meeting at North Conway, September 3. Fifty members were present. Dr. Milton S. Woodman, West Lebanon, read a paper on "Carbuncle," which was discussed by Dr. Charles R. Walker. A paper on "Pathology and Surgical Treatment of Bright's Disease" was presented by Dr. Seth Chase Gordon, Portland, Maine. A banquet followed, at which Dr. James I. Greeley, Nashua, acted as toastmaster. The officers elected are: President, Charles R. Walker, Concord; vice-president, Dr. J. Franklin Robinson, Manchester; secretary and treasurer, Dr. Nelson W. McMurphy, Concord; executive committee, Drs. Charles R. Walker, N. W. McMurphy, P. T. Haskell and D. S. Adams.

BUFFALO ACADEMY OF MEDICINE.

Special Meeting, held Sept. 8, 1903.

President, Dr. Joseph W. Grosvenor, in the Chair.

Fourth of July Legislation.

A special meeting was held September 8 in order to have preventive measures adopted by city ordinances to lessen accidents from Fourth of July explosions and from bonfires.

Proposed Ordinances.

DR. LUCIEN HOWE presented a set of ordinances and stated the reasons for their adoption. The ordinances are as follows:

Section 1. The sale of any fireworks containing dynamite or any other explosive more powerful than ordinary black gunpowder to any person without permission from the mayor, or the sale or gift to any child or children without the written consent of the parent, of any gun or pistol, of any kind of toy cannon, or any firecracker or torpedo, rocket, balloon or other forms of fireworks or explosive is hereby prohibited.

Any violation of the provision of this section will subject the offender to arrest and fine of $50 for each offense.

Sec. 2. No person shall fire or explode or send off in any avenue, street or alley in the city of Buffalo, any firecracker or torpedo, rocket, balloon or other forms of fireworks or explosives, nor build bonfires, nor discharge any cannon, gun, pistol or any other firearm, or any gun loaded with a dangerous missile.

Any violation of this section shall subject the offender to arrest and fine of not less than $10 nor more than $25 for each offense. Moreover, the offender, or, if he be a minor, his parents or guardian, shall be held responsible for any injury which may result directly or indirectly to person or property from any such explosives or fires.

The provision of this section shall not apply to the public parks, but it shall apply to the streets or avenues connecting these parks with each other.

Sec. 3. Any person, not an employé of the police department, who shall furnish evidence leading to the conviction of one who has violated either of the two preceding sections of this ordinance, shall be entitled to receive half of the fine imposed.

Accidents in Buffalo.

Dr. Howe stated that there have been 209 recorded accidents from Fourth of July celebration in Buffalo since 1895. Last year 60 were reported and there are doubtless many more accidents which are not reported at all. Boston, Providence,

New York, Philadelphia, Cleveland and St. Paul have all adopted restrictive ordinances. He stated that this ordinance would permit the boys to use the parks only for firing off fireworks, and the use of those places would have to depend on the park board.

SUPERINTENDENT OF POLICE BULL suggested that the ordinance should be so framed as to be enforced. The restrictions should be placed on toy pistols, toy cannons, giant crackers and giant torpedoes. The sale of cartridge pistols to children under 16 years is already prohibited. To make the parent responsible for the use of pistols in the main is imperative, for if the parent can be reached by the police department the regulations can be enforced.

HEALTH COMMISSIONER GREEN stated that there were 459 cases of tetanus in this part of the country as a result of injuries received the last Fourth of July. The toy pistol that discharges a small cartridge does the most harm. If dealers are allowed to sell dangerous fireworks children will get them.

DR. ROSWELL PARK estimated that 8,000 deaths from tetanus as a result of the toy pistol had occurred in this country in the last twenty years.

Co-operative Committee Appointed.

A resolution was passed naming a committee of five to cooperate with different departments of the city government and with various public bodies to bring about the enactment of an ordinance embodying the propositions laid down in the draft presented. Drs. Lucien Howe, Walter D. Greene, Roswell Park, Eugene Smith, and Peter W. Van Peyma were appointed as such committee.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Eczema.

Success in the treatment of eczema, according to G. P. Katzenstein in the *Post Grad.*, depends on the practitioner's ability to observe the various types and stages of the disease. Attention, according to the author, must be directed to the patient's general health, diet, constipation, urine and personal hygiene; when indicated, tonics should be given, such as strychnin, iron, quinin and cod-liver oil.

He recommends the wine of antimony in doses of ten or fifteen minims in the treatment of the acute stages of the highly inflammatory eczemas.

If lithemia is present it must be corrected. Arsenic must not be employed in the acute or subacute eczemas, as it stimulates the nerves of the skin and aggravates the condition. In the chronic dry forms and the recurrent eczema of the hands and feet it is useful, serving as a tonic to the vasomotor system. The use of soap must be avoided, instructing the patient to use cold cream, sweet oil or olive oil in removing dried crusts and exudates.

Itching, which is the prominent subjective symptom, may be allayed by the use of phenol, resorcin, camphor, menthol and oil of cade prescribed in the following combinations:

R.	Phenol	gr. x-xx	65-1.30
	Hydrarg. chloridi mitis	gr. xx-xl 1.30-2	65
	Pulv. zinci oxidi		
	Pulv. amyli, āā	3ii	8
	Petrolati	3iv	15

M. Ft. unguentum. Sig.: Apply locally.

In conjunction with the foregoing ointment the following lotion may be applied locally through the day:

R.	Resorcin		
	Acidi borici, āā	3i	4
	Pulv. zinci oxidi	3ii	8
	Glycerini	3i	4
	Aquæ q. s. ad	℥iv	120

M. Sig.: Apply locally during the day.

In the vesicular form of eczema and in eczema rubrum accompanied by exudation the following is serviceable as a cooling ointment:

R.	Camphoræ	gr. xv	1
	Phenol	gr. xx	1 30
	Pulv. zinci		
	Kaolin		
	Aquæ		
	Petrolati, āā	3i	4

M. Sig.: Apply locally.

Where a protective dressing is indicated the following may be applied:

R.	Glycerini		
	Gelatin, āā	℥iss	45
	Pulv. zinci oxidi	℥iii	90
	Aquæ	℥iv	120

M. Sig.: Heat over a water bath, and while warm apply locally and cover with cotton.

Ointments containing oil of cade, salicylic acid and ichthyol are more useful in the treatment of the chronic papular forms of eczema where stimulation is required.

For the eczemas of children, which occur in the summer, the following lotion is preferable:

R.	Resorcin		
	Glycerini, āā	3i	4
	Pulv. zinci oxidi	3ii	8
	Acidi borici	3i	4
	Ol. amygdalæ dulc.	℥ii	60
	Aquæ calcis q. s. ad	℥iv	120

M. Sig.: Apply locally.

Eczema appearing on the hairy regions of the body can be benefited by applying the following lotion:

R.	Resorcin		
	Glycerini		
	Acidi borici, āā	3i	4
	Aquæ q. s. ad	℥vi	180

M. Sig: Apply locally

In the dry form of eczema, accompanied by itching and induration, the following is recommended by the author:

R.	Phenol	gr. x	65
	Olei cadini	m. xl	2 65
	Pulv. zinci oxidi		
	Pulv. amyli, āā	3ii	8
	Petrolati	3iv	15

M. Ft. unguentum. Sig.: Apply locally.

Turpentine in Pneumonia.

The oil of turpentine, according to an abstract in *Merck's Archives*, has been used by W. Thomas of Rhyl very successfully in the treatment of pneumonia. He regards it as almost a specific in those cases complicating influenza. It must be given early, persistently and in adequate doses. He first gives a good dose of calomel and subsequently the following mixture:

R.	Olei terebinthinæ	3ii-iv	8.-15
	Pulv. tragacanthæ comp.	3i	4
	Spts. ammon. arom.	3ii	8
	Spts. chloroformi	3ii	8
	Aquæ q. s. ad	℥viii	240

M. Sig: One teaspoonful every four hours.

The symptoms are rapidly ameliorated, the furred tongue cleansed and moistened, the appetite improved and the bowels opened. The virtues of the turpentine are supposed to be in its antiseptic properties, its ease of absorption, and its stimulating qualities.

Valerian.

The newer remedial agents, according to S. E. Earp in *Med. and Surg. Monitor*, have proven so satisfactory in the treatment of disease that the practitioner sometimes erroneously expects them to accomplish everything and thus reject the old remedies to the detriment of the patient. He therefore reviews the therapeutic action of valerian, the value of which has been proven. The tincture, in strength of 20 per cent., and the ammoniated tincture are the preparations most frequently used. They may be given in doses ranging from one to two drams, flavored with gaultheria or peppermint. He recom-

mends it in cases of delirium tremens, coughs of reflex origin, hysteria and insomnia. The following combinations are recommended by the author:

℞. Tinct. valerianæ ammon. .....ʒii 60
Tinct. piscidiæ
Elix. simplicis, āā.....ʒi 30
M. Sig.: One dessertspoonful every two to six hours.

In nervous disorders of women the following may be given:

℞. Tinct. valerianæ ammon.
Spts. etheris comp.
Tinct. humuli, āā.....ʒii 60
M. Sig.: Two teaspoonfuls in water every hour or two hours.

If this preparation is not given judiciously, according to the author, toxic effects may arise such as are shown by dizziness, vomiting, hiccough, eructations, diarrhea.

In many hysterical disorders the practitioner prescribes preparations containing chloral, potassium bromid, or opium when a proper knowledge of the pathology of the disease would show their contraindication, and the ammoniated tincture of valerian could be of service.

In insomnia from overwork or from leading a strenuous life it is of value, as well as in those cases of insomnia in patients recovering from la grippe, using this preparation as a substitute for the hypnotics.

The dentist could use it with advantage in those nervous cases brought on from the shock of the operation. In disturbances of the menopause or in nervous headache due to excitement it is a valuable antispasmodic. In the neuroses where the heart's action is accelerated or the respiration quickened or in cases of melancholia and hypochondriasis, valerian is of value. He especially emphasizes the importance of valerian in the nervous diseases of children where opium is too often used in its stead, which enhances the dangers of the child's life and aggravates the disease.

Medicolegal.

Amputation Below Elbow Constitutes "Loss of an Arm."—The Supreme Judicial Court of Massachusetts says, in the case of Garcelon vs. the Commercial Travelers' Eastern Accident Association, that it considers the amputation of an arm a little below the elbow to be the loss of an arm in the common acceptation of those words, and within their meaning as used in a policy which specifies merely the "loss of an arm," without mentioning whether the loss is by amputation below or above the elbow joint.

Showing Employment of Physician to Make Examination.—In the case of the Allen B. Wrisley Company vs. Burke, which was brought by the latter party to recover for personal injuries, in the cross-examination of a physician who testified in behalf of the company as to the condition, physically, of the party suing soon after the injury was received, it was developed that the physician had been employed to make the examination for the purpose of becoming a witness in the case, and had been paid for his services in so doing. The fact that the physician had been engaged and paid to make the examination, and for the purpose of giving testimony in the case, the Supreme Court of Illinois holds, was proper for consideration, as bearing on the weight and value of his testimony. The fact that, in developing the proof that the witness was employed and paid to make the examination, it incidentally appeared he was paid by an accident company, did not constitute error demanding the reversal of the judgment.

No Compulsory Examination in Slander Case.—The Court of Criminal Appeals of Texas says that, in Bowers vs. State, a criminal prosecution for the slandering of a female, where the defense consisted of an effort to prove the truth of the allegation; that is, that the accused had had carnal intercourse with the prosecutrix, a motion was made to have the trial court order an examination of the private parts of the prosecutrix by reputable physicians, alleging that such examination would show that her hymen had been ruptured and destroyed by a male organ penetrating the same. This motion was objected to by the state on the ground that the court had no authority to make such order, and the court sustained the objection, and declined to appoint the committee of physicians, and to authorize them to subject the prosecutrix to a private examination. In refusing to make the order, when the prosecutrix objected to the examination, the Court of Criminal Appeals holds that the court below did not err. Of course, it says, if the prosecutrix had been willing to submit to the examination, and such examination would tend to solve a disputed issue in the case, it would be entirely competent for the court to make the order.

Not Competent to Testify as to Miscarriage.—The Court of Appeals of New York holds, in the personal injury case of Gray vs. the Brooklyn Heights Railroad Company, that lay witnesses, even with some experience in midwifery, should not be permitted to compare germs of life at its earliest stage and announce their conclusions. The subject is not a matter of common knowledge or observation. Here the injured party commenced to bleed after a slight jolt in a street-car collision. Soon after, something about as large as an egg, and colored like blood, passed from her, and after that she bled for about two weeks longer. Whether or not it was a miscarriage was in dispute, and she was permitted to state that it was one. The other women, who claimed to have had miscarriages, were also permitted to state how what she had compared with what passed them. The court holds that these rulings were erroneous. Manifestly, it says, these witnesses could not have expressed the opinion directly that the party suing had had a miscarriage, yet each was permitted to express that opinion indirectly by saying, in substance, that what happened to the party suing was the same as had happened to herself, when she had, in her opinion, a miscarriage. She could not say that this party's case was like her own. A witness may testify that he had a cold, as that is a matter of common knowledge and experience, but he can not say, "I had pneumonia, and the plaintiff's symptoms were like mine," because it is not the statement of a fact within the range of common knowledge and observation, but of two opinions, both of which are incompetent. The witnesses should have stated the facts only, and the jury, guided by the opinions of the physicians so far as they deemed them reliable, should have drawn the conclusion.

Christian Science and the Treatment of Disease.—The Supreme Court of Pennsylvania says, in the matter of the application of the First Church of Christ, Scientist, for a charter under the laws of the state of Pennsylvania, that the application set forth that the purposes for which the corporation was to be formed were to "establish and maintain a place for the support of public worship and to preach the gospel according to the doctrines of Christ Jesus as found in the Bible and the Christian Science text-book, 'Science and Health, with Key to the Scriptures,' by Mary Baker G. Eddy." The Supreme Court is inclined to think that the evidence was not sufficient to support a finding that the corporation itself was to be one for profit. It says that there was proof that the individual healers, who are constituted and sent out by the society, do receive compensation for their services; but this seems to be a personal recompense, with which the society has nothing to do. But the court below, in its supplemental opinion, went beyond this question, and adopted in substance the conclusion of the master that the practice of the art of healing or curing disease in the manner set forth in Mrs. Eddy's book is injurious to the community, because it is opposed to the general policy of the law of Pennsylvania relative to the existence and treatment of disease. It was the duty of the court below to refuse the charter, if, in the exercise of sound legal discretion, he found its purpose, in whole or part, included anything injurious to the community. Can it be said that there was an abuse of discretion in the finding in this case? We are not to consider the matter from either a theological or metaphysical standpoint, but only in its practical aspects. It is not a question as to how far prayer for the recovery of the sick may be efficacious. The common faith

of mankind relies, not only on prayer, but on the use of means which knowledge and experience have shown to be efficient; and when the results of this knowledge and experience have been crystallized into legislative enactments, declarative of what the good of the community requires in the treatment of disease, and of the qualifications of those who publicly deal with disease, anything in opposition thereto may fairly be taken as injurious to the community. Our laws recognize disease as a grim reality, to be met and grappled with as such. To secure the safety and protect the health of the public from the acts of incompetent persons the law prescribes the qualifications of those who shall be allowed to attempt the cure or healing of disease. It is not for the purpose of compelling the use of any particular remedies, or of any remedies at all. It is only designed to secure competent service for those who desire to obtain medical attendance. In certain diseases the individual affected may be the only one to suffer for lack of proper attention; but in other types, of a contagious or infectious nature, they may be such as to endanger the whole community. And here it is the policy of the law to assume control and require the use of the most effective known means to overcome and stamp out disease, which otherwise would become epidemic. In such cases, failure to treat, or an attempt to treat by those not possessing the lawful qualifications, are equally violative of the policy of the law. It may be said that the wisdom or the folly of depending on the power of inaudible prayer alone, in the cure of disease, is for the parties who invoke such a remedy. But this is not wholly true; "for none of us liveth to himself, and no man dieth to himself," and the consequence of leaving disease to run unchecked in the community is so serious that sound public policy forbids it. Neither the law, nor reason, has any objection to the offering of prayer for the recovery of the sick. But in many cases both law and common sense require the use of other means which have been given to us for the healing of sickness and the cure of disease. There is ample room for the office of prayer, in seeking for the blessing of restored health, even when we have faithfully and conscientiously used all the means known to the science and art of medicine. The findings of fact by the learned master, and his conclusions of law therefrom, and the opinion of the court below, in which they are summarized and approved, vindicate the action taken. Under the well-defined policy of the law of Pennsylvania, as at present existing, we are satisfied that there was no abuse of sound legal discretion in refusing the application for a charter. The appeal is quashed, and the order refusing to approve the charter is affirmed.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

September 5.

1 *The Adams Stokes Syndrome, with Report of a Case. Peter Bassoe.
2 *The Prognosis and Orthopedic Treatment of Acute Anterior Poliomyelitis. (To be concluded.) Walter G. Stern.
3 *Listerism: Its Past, Present and Future. G. S. Towne.
4 *The Operative Treatment of Tuberculous Glands of the Neck. J. G. Sheldon.
5 *Regicides: Sane and Insane. (Concluded.) E. C. Spitzka.
6 *Hay Fever: A Cause and a Cure. Frank E. Stowell.
7 Celloidin as a Material for Flat-foot Plates. Harold W. Jones.
8 A Case of Atropin Poisoning. C. B. Cortright.

1. **Adams-Stokes Syndrome.**—The points especially emphasized by Bassoe are summarized by him as follows:

1. The Adams Stokes symptom-complex is not a clinical entity. It may supervene in various diseases involving the heart, vagus nerves or medulla oblongata.
2. It is particularly likely to set in when the upper part of the ventricular septum is diseased.
3. Arteriosclerosis is not essential for its production.
4. Its occurrence in a well-studied case of localized lesion of the intramedullary portion of the accessorius nerve supports the hypothesis that the inhibitory fibers of the heart are derived from this nerve.
5. A lesion of the ventricular septum is capable of producing bilateral degeneration of the extramedullary cardiac fibers of the vagus nerves.
6. The existence of bradycardia in a case with bilateral vagus degeneration proves the muscular origin of bradycardia in such a case as the inhibitory influence of the vagi then must be absent.
7. The bradycardia is the fundamental feature of the Adams-Stokes syndrome. The nervous symptoms vary largely, according to the susceptibility of the nervous centers to the circulatory disturbance induced by the bradycardia.

2. **Poliomyelitis.**—Stern's article will be reviewed when concluded.

3. **Listerism.**—Towne gives a résumé of the history of aseptic and antiseptic surgery, showing that the scientific basis of Lister's method has never been successfully attacked, and that the decrease of mortality since its use has placed surgery almost at the head of the modern sciences.

4. **Tubercular Glands of the Neck.**—Sheldon's article is largely an anatomic one showing the conditions to be met in operating for tubercular glands. He thinks that the successful and complete removal is a necessity; partial operations in his practice have been followed by relapses. He reports three cases of death following operations for tuberculous glands of the right side of the neck, and considers them possibly due to the introduction of post-operative debris into the right lymphatic duct. Consequently, he no longer disregards this vessel, but clamps and ligatures the base of the mass of tissue removed from the subclavian triangle in his operations. For details the paper itself should be referred to.

5. **Regicides.**—Spitzka argues that we are not to consider the regicide as necessarily degenerate or insane. He points out that in many, if not in most cases, they have had rational incitation to their act, and their surroundings and associates have been such as to encourage it.

6. **Hay Fever.**—The theory of hay fever held by Stowell is that it is a nervous trouble not due to nasal irritation, but more especially to the actinic solar rays. He has, therefore, utilized smoked glasses for the early form of hay fever in his own case, and finds decided relief from their use. In one or two other persons there were somewhat similar results. He would be glad to have further trials of this method.

Medical Record, New York.

September 5.

9 *Acute Bulbar Paralysis Due to Hemorrhage and Softening of the Pons and Medulla; with Report of Cases and Autopsies. Charles L. Dana.
10 Abscess of the Left Temporosphenoidal Lobe of Otitic Origin; Operation; Recovery. E. Gruening.
11 *The Rational Treatment for Mouth Breathing. W. H. Fitzgerald.
12 *The Internal Administration of Methylene Blue as an Aid in the Diagnosis of Urethroperineal Fistula. Richard Lightburn Sutton.
13 A Possible Case of Infant Poisoning as a Result of Abnormal Mental and Physical Condition in the Mother. Chester J. Stedman.
14 A Case of Smallpox in the Fetus. J. H. Franklin.

9. **Bulbar and Pontine Paralysis and Softening.**—Dana's article is a very elaborate one, giving the anatomy, etiology, pathology, clinical symptoms, etc., of the conditions of hemorrhage and softening of the pons and medulla causing acute bulbar paralysis. He concludes with rather elaborate reports of personal observations of cases and a bibliography.

11. **Mouth Breathing.**—The method suggested by Fitzgerald for the treatment of mouth breathing is, first, to restore the nose as nearly to the normal conditions as possible, and then insist on the patient using it. He says so long as local applications, sprays, douches and solution treatment are relied on we shall fail. What the nose wants is air and not water or sprays. He treats these cases by regular exercise, using the mouth guard at night for a few weeks. The form of guard he has found best is a small strip of adhesive plaster worn vertically across the center of the mouth. He thinks treatment should be commenced in early infancy. Normal breathing will help to bring about normal development. Without it such development can not be obtained.

12. **Methylene Blue in Diagnosis.**—Sutton reports a case in which methylene blue given by the mouth was effective in diagnosis of the urethral connection of a perineal abscess which could not otherwise be detected. He thinks the method is to be recommended in such cases where the canal is too tortuous for probing or where the genito-urinary tract is sus-

pected, on account of its simplicity, reliability and freedom from pain.

Boston Medical and Surgical Journal.

September 3.

15 *The Resistance of Tissues as a Factor in the Manual Reduction of Congenital Hip Dislocation. E. H. Bradford.
16 *Privileged Medical Communications. David W. Cheever.
17 *The Workings of the New York Law. Walter Soren.
18 *Privileged Communications to Physicians. Frederick J. Stimson.

15. **Congenital Hip Dislocation.**—Bradford holds from his study of the subject that the resistance offered by the capsule in congenital hip dislocation is not more important than that offered by the muscles. The chief resistance to forcible abduction is from the strong tendon of the adductor magnus. The resistance to pulling down the head comes from the hamstring group and the long tendon of the adductor magnus and ilio-tibial band. These resistances may be overcome by small incisions at a distance from the hip. In the lighter cases manual manipulation is sufficient. In resistant cases mechanical force, which pulls on and abducts the limb, arranged so as to also directly act on the capsule, is of assistance. Where the tendon of the adductor magnus is so strong that excessive force is needed in stretching, it seems to him advisable to divide the chief resisting tissues rather than to incur the danger of severely bruising the tissues by the force used. Division of the tendon can be done either before the operation of forcible correction or at the same time.

16. **Privileged Communications.**—Cheever rather advocates the New York law or some modification of it. He suggests that it should be considered unprofessional for the physician to divulge anything confided to him by his patients unless the patients consent or it is a case of crime. In all other cases the confidences should be considered privileged communications, and if a physician declines he should be protected. If he consents to testify he should go before the judge in private.

17. **Privileged Communications.**—Soren describes the New York law and the amendments that have been made. The obvious lesson to be drawn from its working, he says, is that any new legislation on the subject of privileged communications would have to be contained in eight or nine separate sections in order to take advantage of the points that have made the amendments to the New York law advisable. It would also be well to avoid, if possible, language giving the court such entire freedom of construction. The question in regard to a medical privilege law would be whether more injustice would be caused by it than would otherwise be the case. The fact, however, that they are still amending the New York law stands something in its favor.

18. **Privileged Communications.**—Stimson maintains that the common law practice is really the best. He sees no reason why a physician's privilege should be used to protect a crime. In instances of actions for damages for personal injury by the patients he sees no reason why the latter should necessarily be protected. If the injury is trivial and the person injured is trying to get up a fraudulent claim, there does not seem to be much injustice in making him confide in the physician at his own risk. In will cases there certainly should be no privilege, he thinks, and it is well known that the New York statute works an injustice on life insurance companies in its present arrangement. In suits between the physician and patient it is not in the interest of the physician, at least, to have the privilege maintained. There is a great class of cases, likely more and more to get into the courts, in matters of marriage, divorce or sometimes wills, where the physical condition and the just or temperate life of some person is concerned. No statute, he thinks, can be drawn which can be safely applied to all these cases, and the absolute exclusion of the physician's testimony would be unwise. It is, therefore, better, he says, to leave the matter to the common law as done at present in Massachusetts and some other states.

Medical News, New York.

September 5.

19 *The Reduction in the Infant Mortality in the City of New York and the Agencies Which Have Been Instrumental in Brining It About. Rowland G. Freeman.
20 *Neglected Prophylactic Measures Against Diseases of the Respiratory Tract. D. H. Bergey.
21 Puerperal Insanity. J. Will Palmer.
22 The Adaptability of Western Texas Climate for the Treatment of Consumptives. C. H. Wilkinson.
23 Perineal Prostatectomy without Opening Urethra or Bladder; Unsatisfactory Result; Subsequent Perineal Cauterization of *en Collarette* Narrowing of Bladder Orifice; Recovery. Joseph R. Eastman.
24 Mastoid Disease and Meningitis. Seymour Oppenheimer.

19. **Infant Mortality.**—The following is the summary offered by Freeman of his discussion of infant mortality and its reduction in New York City:

1. The infant mortality of all countries is shockingly high, and this is shown to be unnecessary by the fact that infants that are well cared for show a very low mortality.
2. The influences that contribute to the high mortality are defective feeding, the active cause, and heat and humidity and bad surroundings as contributory causes.
3. There has been a marked decline in infant mortality during the last ten years in the United States, and especially in New York City, due, for the most part, to the decline in mortality from summer diarrhea.
4. This striking decline in infant mortality is due to many agencies. The general adoption of pasteurization and sterilization of milk for infant feeding is by far the most important of these and applies to New York City and the whole of the United States. Other agencies in New York City are the improved city administration, the milk inspection of the department of health, the Straus Milk Charity, the fresh air work of St. John's Guild and similar charities, cleaner streets and asphalt pavements, the new small parks, playgrounds and recreation piers, the improved tenements and the use of diphtheria antitoxin.

20. **Respiratory Diseases.**—Bergey calls attention to certain evils and neglected prophylactic measures, especially in industrial pursuits where exposure to dust is required. We should give more attention to the value of pure air, and secure for this class of workingmen shorter working hours and less exposure, encouraging them to more outdoor exercise. The condition of city streets is another matter of importance, and undoubtedly favors the general dissemination of specific microorganisms and also lowers the vitality of the respiratory mucosa. He hopes that we will have more efficient street cleaning and transportation lines placed either underneath or above the streets, and the employment of draft horses substituted by other means. The second point to which he calls attention is the deficiency of ventilation in the public schools and their overcrowded condition.

American Medicine, Philadelphia.

September 5.

25 *A Study of Uncinariasis in Porto Rico. (To be concluded.) Bailey K. Ashford and W. W. King.
26 *The Significance of the Convulsion in Idiopathic Epilepsy. J. W. Wherry.
27 *The Abuse of Inflation and Massage of the Middle Ear. Emil Amberg.
28 A Case of Infectious Dermatitis in Chronic Morphinism. Accompanied by an Unknown Diplococcus, Resembling M. Gonorrhea. Palmer H. Lyon and W. B. Wherry.
29 *The Antiseptic Qualities of Coffee. W. H. Crane and Alfred Friedlander.
30 *On the Toxicity of Methyl Alcohol in Extracts and Medicines. R. H. Main.
31 Historic Notes on the Laws Governing Civil Malpractice in the Ancient Times and the Middle Ages. Charles G. Cumston.

25. **Uncinariasis in Porto Rico.**—According to Ashford and King the most favorable conditions exist in Porto Rico for the growth and spread of uncinariasis, uncommonly fine climate, water-soaked soil, perfect culture media, topography favorable to the spread of larvæ, dense shade, density of population, agricultural pursuits, bad sanitation and habits. The authors lay much stress on the importance of eosinophilia as a diagnostic and prognostic point. The disorder is at some period of its course marked by this condition. High eosinophilia is to be looked for in recent cases where the blood regeneration is still active. In chronic cases, where the anemia is profound, it is apt to be low, and to rise after treatment, if the prognosis is good. A fall in the number of eosinophiles, however, is a bad symptom. They notice the symptoms at length and consider the course of the disease, when uninterfered with, to be progressively downward.

26. **Epilepsy.**—Wherry holds that the convulsion in epilepsy is a salutary process and that without it the condition would be much more serious. It is a conservator of life, he says, standing between alarming autointoxication and possible

death, and points the way in which the epileptic can secure relief. He does not attempt to stop the convulsions, and the use of bromids, he thinks, for this purpose is a mistake.

27. Ear Massage.—Amberg holds that massage and ear inflation are overdone, and insists on the importance of the use of Siegle's pneumatic ear speculum for diagnostic purposes. The treatment should be continuously controlled by hearing tests, and any local treatment, if injurious, naturally should be absolutely prohibited.

29. Coffee.—The antiseptic qualities of coffee are noticed by Crane and Friedlander, who have experimented on its bacteriocidal properties. They find that roasted coffee is a decidedly active agent in the destruction of germs, including some of the more serious and important ones. Just how it acts they do not venture to say. They find it can not be due to caffein, as that had very little effect in retarding putrefaction, and tea infusions have not this property. There is no reason to suppose that the oil abstracted by Erdman and Bernheimer has any such effect, and caffetannic acid is abundant in green coffee, which is not effective. The suggestion is made that the antiseptic qualities may be partially due to an aldehyd, but the final solution of the question must wait for a more definite knowledge of the changes induced by roasting the substance.

30. Methyl Alcohol.—This is, in substance, the same article as that noticed in THE JOURNAL of September 12, ¶52, p. 686.

Cincinnati Lancet-Clinic.

September 5.

32 Timeliness in Abdominal Surgery. Hal C. Wyman.
33 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) IV, Surgery of the Spleen. (Bibliography.) B. Merrill Ricketts.

University of Pennsylvania Medical Bulletin, Philadelphia.

July-August.

34 On the Plurality of Cytolysins in Normal Blood Serum. Simon Flexner and Hideyo Noguchi.
35 On the Plurality of Cytolysins in Snake Venom. Simon Flexner and Hideyo Noguchi.
36 *The Types of B. Dysenteriæ (Shiga) in Relation to Bacteriolysis and Serum Therapy. An Experimental Study. Frederick P. Gay.
37 *Acute Dysentery Associated with the Two Types of Bacillus Dysenteriæ (Shiga). Frederick P. Gay and C. W. Duval.
38 Acute Ulcerative Endocarditis Caused by the Meningococcus (Weichselbaum). Louis M. Warfield.
39 The Effects of Venom on the Blood Corpuscles of Cold-blooded Animals. Hideyo Noguchi.
40 A Note on Autolysis in Lobar and Unresolved Pneumonia. Simon Flexner.
41 Primary Sarcoma of the Spleen, with Metastases; Report of a Case. C. H. Bunting.
42 The Multiplicity of the Hemaglutinins, and the Heat Lability of the Complements of Cold-blooded Animals. Hideyo Noguchi.
43 Notes on the Experimental Production of Specific Cytolysins for the Adrenal, Thyroid and Parathyroid Glands of Dogs. J. L. Yates.
44 The Effects of Lymphotoxins and Myelotoxins on the Leucocytes of the Blood and on the Blood-forming Organs. C. H. Bunting.
45 An Experimental Study of Nephrotoxins. Richard M. Pearce.

36. Dysentery Bacillus.—The conclusions reached by Gay are that the dysentery bacilli (Shiga) fall into two types according to their cultural and agglutinative reactions. These, however, are not absolute, but relative; they serve to indicate a closely related group of organisms. The bacteriolytic differences serve to distinguish the two types of dysentery bacilli. The relative value of these distinctions is emphasized by the protective power of antidysenteric serum, which is effective, in different doses, for both types of the micro-organism. Human complement is capable of activating antidysenteric serum from the horse. Passive immunity to the dysentery bacillus is of brief, active immunity, of much longer duration in the guinea-pig. The dysentery bacillus vaccines increase in toxicity for a time, at least, and the increase is associated with disintegrative changes in the bacilli.

37. Dysentery Bacillus.—Gay and Duval describe cases which seem to have been caused by this organism, which has the characteristics of a group of organisms rather than one single, well defined species. They think, however, the distinction of the types into the dysentery and pseudodysentery bacillus, as attempted by Kruse, Martini and Lentz, is artificial and unwarranted with our present knowledge.

Journal of Tuberculosis, Asheville, N. C.

July.

46 *Dispensaries for Tuberculosis, with a Description of the Tuberculosis Department of the Boston Dispensary. Edward O. Otis.
47 *Home and Sanatorium Treatment of Tuberculosis. William Porter.
48 *The Importance of the Nerve Centers in Pulmonary Consumption. Thomas J. Mays.

46. Dispensaries for Tuberculosis.—The advantages of these institutions and the order of work of the Boston Dispensary are described by Otis. The objects of a tuberculosis dispensary, according to his views, are: Complete investigation of the patient, personally, and his surroundings; the instruction both of the patient and his household in the hygiene of tuberculosis; the free supply to poor patients of pocket and house spittoons; securing entrance into sanatoriums for curable cases and into consumptive hospitals for incurable ones if they can not be properly cared for at their homes, and if neither of these can be secured, the treating of them as well as possible at their homes; aiding poor patients to obtain suitable food and other necessary articles; affording an opportunity to physicians to send their poor patients for diagnosis when desired, as well as advice and assistance in treatment. Lastly, he mentions the opportunity for scientific study and investigation and for clinical instruction of physicians and students in regard to this condition. The equipment should be a suitable waiting room; a receiving or consulting room where histories are taken, together with pulse, temperature, respiration and weight; several small examining rooms, a small laboratory for sputum examination, etc.; a dark room for laryngoscopic work, and possibly an *x*-ray room. The rooms should all be well ventilated and periodically disinfected. There should be a staff of four chief physicians, each serving three months, with plenty of assistants.

47. The Home and Sanatorium Treatment of Tuberculosis.—Porter describes the proper methods of care for patients at home and in the sanatorium, the education of the public, necessity of proper ventilation, rest, exercise, etc., instruction as to clothing, hydrotherapy, dietetic treatment, etc. He remarks that the results of what has already been done, especially in Germany and in some sanatoriums of this country, are most encouraging.

48. Nerve Centers in Consumption.—Mays claims that the respiratory organs are biologically the most immature and most predisposed to diseases of all the viscera, and that degeneration or imperfection of the vagi or their nuclei aids this tendency. He remarks in support of his views that pulmonary consumption is much more frequent among the insane and mentally defective than in other persons, and that the increase of insanity among the negroes since the strain on their nervous system following the abolition of slavery is also an evidence of their correctness.

Physician and Surgeon, Detroit and Ann Arbor.

June.

49 *The Treatment of Hyperacidity of the Stomach Contents, with Special Reference to the Carbohydrate or Meat-free Diet. David Murray Cowie.
50 *Fibromata as Complications of Pregnancy. Reuben Peterson.
51 A Daily Study of Foods, Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. (Continued.) Ephraim Cutter.

49. Hyperchlorhydria.—The advantages of a carbohydrate diet are noted by Cowie, who points out the stimulating action of a more proteid diet on the stomach secretion. He would add to it a certain amount of fats, and especially the use of milk between meals. The medical treatment is limited solely to the use of alkalies, though belladonna and opium have been advocated to reduce the activity of the glands. Stomach washings should be dispensed with as a rule in cases of normal or hypermotility. It is well to reduce the number of lavages as much as possible, though where there are signs of retention or atony lavage should be carried out systematically. Too much alkali in solution should be avoided and only be used when the stomach has been found to be acid. His practice does not give the theoretical results to be expected from diastase preparations. Attention to mastication and the use of dry foods will thoroughly obviate the necessity for these

substances. Constipation should be looked after and peptic ulcer be considered before instituting too radical measures.

50. **Fibromata.**—The dangers of these growths in pregnancy are treated by Peterson, who considers pressure symptoms a more important indication for interference than the size or position of the fibromata. The number, size and position will determine the exact nature of the operation. First, the abdomen is opened, and if there is a single growth and it can be removed easily, myomectomy may be performed and labor allowed to continue by the natural channels. This will be exceptional, however. Usually the choice would be between a cesarean section and supervaginal or panhysterectomy.

Indiana Medical Journal, Indianapolis.

August.

52 *Spastic Contraction of the Intestinal Muscularis as an Element in Intestinal Obstruction. Hugo O. Pantzer.
53 Deaf-mutism. John G. Wishard.
54 *The Rational Treatment of Tetanus. Edward J. McOscar.
55 Gunshot Wound of Abdomen, with Fourteen Perforations of the Intestine; Operation; Recovery. Wilbur O. Jenkins.
56 A Case of Intestinal Perforation from Gunshot; Operation; Recovery. M. G. Moore.

52. **Intestinal Spasm.**—Pantzer reports four cases of spasmodic constriction of the intestines, 3 of them associated with gallstones and 1 with a suspicion of syphilis. In 1 case there was a perforation of the combined walls of the gall bladder and colon with a stone 5⅛ inches in diameter presenting at the opening. The perforation was closed, the gall bladder emptied of several gallstones and complete relief obtained. The other 2 gallstone cases ended fatally. He discusses the subject generally and the literature to some extent.

54. **Tetanus.**—The rational treatment of tetanus here advocated consists in venesection followed by the injection of normal saline solution. McOscar refers to a case reported previously thus treated, though antitetanic serum was also employed. The result was recovery, though the case was an acute one. He thinks that bleeding and subsequent flushing with normal salt solution had much to do with the good results. The treatment for tetanus, he says, should be first prophylactic by early and free incision and thorough cleansing of every suspicious wound. If the culture shows the tetanus bacillus a liberal immunizing quantity of antitetanic serum should be administered subdurally without waiting for symptoms. When the disease has declared itself the patient should be bled as freely as his condition will admit, followed by generous intravenous injections of normal saline, repeated at sufficient intervals, which will be determined by the rapidity of elimination of the kidneys. After the abstraction of blood the antitetanic serum should be administered in large doses hypodemically.

Annals of Otology, Rhinology and Laryngology, St. Louis.

June.

57 *Is Atrophic Rhinitis Always Autochthonous? The Necessity of Establishing an Exact Diagnosis in Order to Determine the Treatment. W. Freudenthal.
58 An Unusual Case of Frontal Sinusitis. Absence of the Septum. C. G. Coakley.
59 Etiology, Pathology and Symptomatology of Chronic Suppurative Otitis. Charles W. Richardson.
60 The Teaching of Otology to the Undergraduate Medical Student. Alex. Randall.
61 A Few Remarks on Some Everyday Ear Cases. J. E. Sheppard.
62 A Case of Tubercular Laryngeal Stenosis Treated by Tracheotomy. J. Price-Brown.
63 *Mastoid Disease and Meningitis. Seymour Oppenheimer.
64 Some Unusual Mastoid Cases. H. Bert Ellis.
65 Thrombus of the Sigmoid Sinus; Report of Two Cases, Presenting Some Symptoms Differing from Those Usually Found in This Disease. James F. McKernon.
66 Report of a Case of Bilateral Abscess of the Septum with Well-marked Symptoms of Septicemia, and Report of a Case of Epiglottic Abscess with Secondary Involvement of the Cervical Glands. William L. Culbert.
67 A Contribution to Our Knowledge of the Causes of Left Recurrent Laryngeal Paralysis. O. Joachim.
68 A Demonstration of Some Experiments on the Nature and Specific Treatment of Hay Fever. Felix Simon.
69 Address, American Laryngological, Rhinological and Otological Society. L. C. Cline.
70 Case of Removal of Cochlea and Semicircular Canals; Recovery. R. L. Culbertson.
71 A Mastoid and Auricle Retractor. Frederick L. Jack.

57. **Atrophic Rhinitis.**—Freudenthal considers that ozena is an atrophy of the nasal interior conditioned by atmospheric influences—xerasia. The bones of the turbinated bodies appear to be early affected, and the effects of lack of humidity in the air are apparent in all parts. To convert this atrophy into ozena the invasion of a bacillus similar to Friedländer's pneumobacillus is necessary. This usually occurs at an early period of life, perhaps caused in some cases by direct transmission from the vulva. Accessory sinus disease often appears as secondary to the ozena. After all that has been said ozena is to be considered as a genuine and autochthonous disease, resulting from atrophy of the nasal interior.

63.—See also title 24, above.

Journal of Cutaneous Diseases, New York.

August.

72 *Some Observations on the Use of Roentgen Rays in Dermatology. Henry W. Stelwagon.
73 *The Rationale and the Indications for the Therapeutic Use of Roentgen Rays. William A. Pusey.
74 *The Roentgen Rays in Dermatology. Edward B. Bronson.

72. **The Roentgen Rays.**—Stelwagon discusses the values of the coil and static machine as a source of Roentgen rays. He prefers the coil if the electric current is handy or the recharging of the storage battery is feasible. It is more steady and works better in all kinds of weather. For other purposes besides *x*-ray work or where electric currents or the recharging of batteries is not feasible, the static machine should be preferred. A coil with a capacity of a six-inch spark and a static machine giving a good eight-inch spark, will do excellent work. The vacuum is another factor. He says that a moderately low vacuum, equal to a spark gap of about 2 inches, has been what he has used and has seemed to him satisfactory. For protectors he has devised a wooden screen fifteen inches in diameter, one side covered with lead foil and arranged with a head rest, acting both as a protecting screen and a tube holder. When the distance of the tube from the patient is more than five or six inches, a funnel can be attached to the screen with rubber bands and the projecting aperture brought directly over the part to be treated. For the protection of the hands, which is important, he has come to use double mittens, one much larger than the other, the smaller pair enveloped in tin foil, which can be renewed from time to time. The scalp may require attention and protection, and he has noticed that some of his patients have complained of slight dizziness or headache, and he thinks he has suffered so himself. He does not use the *x*-ray treatment for everything, and except in epithelioma, lupus vulgaris, cutaneous tuberculosis, lupus erythematosus, etc., he has employed it only where the cases have proven rebellious to the ordinary methods. The most favorable cases in his experience are those of rodent ulcer occurring in the neighborhood of the eyes. He does not believe in pushing the treatment to actual destructive action, but he thinks that few cases will show much progress unless the *x*-ray affects to a degree of producing a slight flush, usually an extremely slight *x*-ray erythema. He always begins with the tube about 10 or 12 inches with an exposure of five minutes, and gives the treatment, as a rule, twice weekly for two weeks. Then, if no reaction occurs, he speaks of prolonging it fifteen or twenty minutes. A moderate grade of dermatitis may be excited, causing a discontinuance. He has employed the *x*-ray treatment in acne, besides the diseases mentioned, and found it useful. In eczema his moderate experience has led him to think something of its value. In keratosis of the palms and soles he thinks it promises much, and he has had it produce a disappearance of the eruption in psoriasis. Local hyperidrosis is another condition in which he has found it of value. He considers it of first importance in epithelioma, and that it has a wide range otherwise. In eczema, psoriasis and other inoffensive dermatoses he would reserve it for cases that prove intractable to treatment otherwise.

73. **The X-Ray.**—Pusey describes the action of the *x*-ray on the skin as it has been determined. He believes that it acts primarily on the tissue cells, later on the blood vessels. The key to the explanation of the use of the *x*-rays in malignant disease is that it has a quicker action on pathologic tissues than on normal ones. He reviews the various disorders in which he found it of value, including hypertrichosis, sycosis,

comedo, acne, rosacea, hyperidrosis, as well as eczema, lupus, lichen planus, psoriasis and other disorders where the absorption of inflammatory products is desired. His experience with eczema has been favorable as in the case of other workers. The anodyne effects of the *x*-rays are also of value, especially in itching troubles. In favus and tinea tonsurans he has not established its permanent value. It is possible that it might be of use in causing exfoliation of the nail substance, and where it is desired to cause atrophy or decrease in the functional activity of the sebaceous glands.

74. **X-Ray Burns.**—Bronson remarks that while our knowledge of what produces the effect is vague, there is no obvious reason why there should not be a large margin of individual susceptibility. Low tubes seem to be more dangerous in this respect than the high tubes, which are presumed to be more penetrating and suitable for deeply-seated troubles. He discusses the distance of exposure and mode of application. He thinks the standard is 10 minutes at eight inches for the first exposure. He gradually increases this later. No measure, he thinks, requires greater circumspection in its employment or a nicer adjustment of details.

St. Paul Medical Journal.

August.

75 The Relationship Between Diseases of the Nose and Throat and General Diseases. Jacob E. Schadle.
76 Dysentery. G. A. Skinner.
77 *Some Causes of Failure of Operation to Cure Gallstone Disease. William J. Mayo.
78 Some Therapeutic Uses of the X-Ray. W. P. Spring.
79 Kraepelin's Classification of Insanity as Presented by Defendorf. Dwight S. Moore.
80 Puerperal Sepsis from Retained Lochia. C. L. Brimi.
81 Acute Intestinal Obstruction. H. J. O'Brien.
82 Acute Chorea. Arthur W. Dunning.

77. **Gallstone Disease.**—Mayo remarks on the success of gallbladder surgery. In 582 operations he has had but 17, or 3 per cent., that required a secondary operation. It is possible, however, that others may have operated on some of his cases, so this figure is not absolute. Experience has taught him how to get over the defects of his earlier work and avoid the causes which lead to subsequent troubles. He remarks in this connection that a few patients who have had cholecystostomy performed will have a colic or two and transient jaundice within the first month or two after the operation, but usually these do not recur. They are probably due to the nonemptying of the crippled gall bladder with sufficient promptness. Unless there is more than a single spell of pain after closure of the fistula a secondary operation may not be required. The most common cause of secondary symptoms is incomplete removal of stones. This, however, is avoidable with sufficient care. Stones in the cystic duct may escape attention, hence the importance of great care in its exploration. In such cases if the stone completely obstructs the duct he clamps it below the obstruction and cuts it off and then performs cholecystectomy from below upward. It may be done almost without cutting by simple traction. It is important to explore the ducts with the fingers before opening the gall bladder in every case, as stones are sometimes overlooked in the common duct where they may lie quiescent for years. One cause of failure from cholecystostomy is from secondary obstruction of the cystic duct, possibly eventuating in a mucous fistula or repeated attacks of colic, hence the advisability of generally excising the gall bladder whenever the cystic duct is involved. In this way he has in his later practice eliminated this most common cause of secondary trouble. In septic cases long-continued drainage is necessary; severe symptoms may follow too early closing of the fistula. Cancer may be said to be secondary to stone formation, and may occur after operation or, if present, be mistaken for inflammatory conditions. All thick-walled gall bladders should be looked on with suspicion. As they are functionally useless cholecystectomy is better than cholecystostomy. Chronic pancreatitis may exist at the time of operation and require long-continued drainage. The condition of the pancreas should be observed at the same time as that of the ducts. If disease is present there is the choice of cholecystenterostomy with the Murphy button in addition to removing the stone, or of draining for a long time. In the one uncomplicated case in his experience which required a secondary operation, the gall bladder was very large and the fistula did not close. On dissecting out the gall bladder it was found that, by low attachment to the abdominal incision it had formed a channel in which in certain positions of the body bile would gravitate outward. After cholecystostomy the gall bladder should be attached as high up in the incision as convenient. Persistent biliary fistula usually means obstruction of the common duct. He holds that every one understands the importance of not attaching the gall bladder to the skin. In earlier days persistent biliary fistula was usually due to the mucocutaneous suture, the evils of which he does not need to point out. The turning in of the margins of the incision in the gall bladder and the tying of a purse-string suture closely about the drainage tube, as in Kader's gastrostomy, hastens the healing of the fistula. Two possible or rather common causes of failure to effect a perfect cure that can not always be avoided are post-operative adhesions. Those to the stomach and duodenum are the most common, and may require secondary separation with the use of Cargile's membrane; and hernia, which is not usually troublesome. It may follow a long incision in obese people. While the adhesions usually relieve themselves by stretching, he does not allow the gauze drains to come in contact with the stomach and duodenum on account of their possible development, but interposes a piece of rubber tissue and leaves it from six to eight days until the adherent films surrounding the drains become organized. To avoid hernia, he makes a secondary opening outside the working incision in cases where it is at all likely to occur, close to the ribs, and through this the drainage matter may be brought out. This enables us to carefully close the full length of the original incision. The necessity of this is increased if the opening has been extended downward to remove the appendix.

Annals of Gynecology and Pediatry.

August.

83 *The Toilet of the Peritoneum in Appendicitis. Stephen H. Weeks.
84 *Toilet of the Peritoneum in Gunshot Wounds of the Stomach and Intestines. George Tully Vaughan.
85 *Simultaneous Catheterization of Both Ureters. Its Advantages. Technic with New Instrument. S. L. Elsner.
86 *Remarks on Cesarean Section for Placenta Previa, with Special Reference to the Life of the Child. Francis D. Donoghue.

83. **Appendicitis.**—No one method is suitable in all cases, Weeks remarks. If there is no pus formed drainage is not required. If a circumscribed abscess exists care should be taken not to infect the general peritoneal cavity by forcible irrigation which may extend the infection. The pus cavities should be cleansed with gauze pads wet with sterile salt solution or sometimes with peroxid of hydrogen diluted with equal parts of sterile water. In such cases the appendix can generally be found and should be removed, and the wound and abscess cavity should be packed with sterile gauze. Where the wall of the abscess is firmly adherent to the anterior abdominal wall and can be opened without opening into the noninfected abdominal cavity, the point of adhesion should be carefully determined and the abscess opened at this point. Concretions should be looked for, as they may lead to sinuses, the abscess cavity evacuated and cleansed with gauze pads or irrigation and the whole cavity packed with gauze. Great care should be used not to break down the abscess wall at any point. Where there is no protecting wall of adhesions and the products of a septic peritonitis have flooded the abdominal and pelvic cavities, thorough irrigation is required, perhaps several times repeated, and drainage.

84. **Gunshot Wounds.**—Vaughan classifies gunshot wounds into two classes—with or without peritonitis. In the first class, if there is no extravasation of the visceral contents, neither irrigation or drainage is required, but if there is extravasation of the visceral contents, thorough cleansing of the peritoneal cavity is necessary and, unless the operator is satisfied that the cleansing is perfect, drainage should be used from the most dependent part—in the female in the vagina and in the male perhaps by tapping the rectovesical peritoneal pouch by an opening into the perineum between the rectum

and the urethra. When the wounds are few, extravasation limited and operation performed early, cleansing by sponging and local drainage may be all that is required. After severe hemorrhage with the formation of blood clots or if there has been imperfect hemostasis, irrigation is indicated as the bloody fluid would form too good a culture medium for germs. In case of local peritonitis the parts involved should be drained, but irrigation should be used with caution to avoid infection of other parts. Generally it is advisable to simply provide drainage. In general peritonitis there is little to be done, but the patient should be given the chance of life by thorough irrigation and efficient drainage in the manner described.

85. **Catheterization of Both Ureters.**—Elsner describes the technic with an especial cystoscope devised by him for double catheterization, which is illustrated and its uses reviewed.

86. **Cesarean Section for Placenta Previa.**—From a thorough study of the subject Donoghue concludes that the conservative Sänger cesarean section should be performed in the case of complete previa, of previa in the primipara, or in the presence of severe hemorrhage or rigid os, when there is a history of previous operative delivery, and it should be considered in all cases where version is indicated, if a reasonably skilled surgeon is available and only an ordinary obstetrician. All these indications are based on a probable viable child, 28 weeks of gestation and upwards. The operation should be performed through the left rectus muscle. Incision of the uterus is not usually followed by hemorrhage, even when the broad ligaments are not constricted. Time should be allowed for contraction and retraction of the uterine fibers before attempting to remove the placenta. If severe hemorrhage has preceded operation the abdomen can be filled with saline solution before it is closed. The shock of such an operation is not greater than that of version or forceps in a woman already exhausted, and within a few minutes the indications to empty the uterus and control the hemorrhage will have been fulfilled.

American Journal of Obstetrics, New York.

August.

87 *Antenatal Rigor Mortis. C. E. Paddock.
88 *The Relations Between Peritoneal Adhesions and the Functionating Uterus. Charles B. Reed.
89 Fetal Ascites with Dystocia. Stanley P. Warren.
90 *A Preliminary Report on Electrothemic Hemostasis with the Downes Instruments. A. Goldspohn.
91 *Congenital Dilatation of the Gall Bladder and Bile Ducts. G. Brown Miller.
92 *Tumors of the Round Ligament of the Uterus. Duff G. Lewis.
93 *Treatment of Club Foot in Children Under Three Years Old. A. R. Shands.
94 *The Action of the Uterus During Labor. Elmer Sothoron.
95 *The Kidney in Pregnancy. Robert W. Stewart.

87. **Antenatal Rigor Mortis.**—Two cases are reported by Paddock and others referred to in the literature. He supports the probability of rigor mortis occurring in the fetus by the animal experiments of Tissot, showing conclusively that such a condition does exist. From a medicolegal standpoint it must be admitted that it can occur before birth as well as after. The existence of a new-born dead infant in rigor mortis is not a necessary proof of a life apart from the mother, but it does prove that the fetus was alive shortly before or during birth. The condition often complicates delivery by interference with its normal mechanism.

88. **Peritoneal Adhesions.**—Reed gives quite a full review of the literature of peritoneal adhesions. He says they are responsible for many cases of so-called hysteria and frequently for menstrual pain and irregularity. They produce many abortions, and a certain number of placental and fetal anomalies, sterility and tubal pregnancy may result. Pregnancy and labor are sometimes rendered pathologic by the presence of these adhesions. Many adhesions are undoubtedly destroyed by the growth of the uterus in pregnancy, but their rupture may be attended with fatal hemorrhage. Adhesions between the movable organs of the abdomen and the functionating uterus are only a rare source of danger or a cause of death. Where they are protecting the peritoneal cavity from pus pockets, they are extremely dangerous. The pus should be evacuated as soon as possible after the diagnosis, without reference to the pregnancy, and even if abortion should follow the condition is less serious than when rupture occurs during pregnancy and labor. If the diagnosis is made during labor, it is allowable to temporize until the termination of the case, accelerating the labor if possible by artificial assistance. If the intestines are seriously involved or excluded, the phenomenon occurs in most cases between the fourth and seventh month of pregnancy. When ileus occurs during pregnancy and labor the prognosis is very grave for both the mother and child, especially the latter. The treatment should be surgical.

90. **Electrothermic Hemostasis.**—Goldspohn disagrees with Downes in certain points as regards the electrothermic angiotribe. A large platinum knife is not always sufficiently heated by the current and the time required to oil the blade, apply the forceps, insulate the blade, connect the cable, and then wait for one and a quarter to two minutes for a sufficient effect, is not always less than is required to ligate the parts. He thinks the effort to make this method of hemostasis supersede or displace ligation is not entirely judicious because the heating blade would sometimes have to be located where its insulation would be difficult and insecure. He also thinks that Dr. Downes assumes too much when he holds that the forceps make a permanent closure of such organs as the fallopian tubes or that septic tubes treated by it are also sterilized. The advantages are the greater comfort of the patient after the operation from insensitiveness of the nerves, the probable sterility of the pedicles, the less loss of blood and the avoidance of introducing any foreign body such as ligatures and so on, and the more ideal asepsis in this respect. In vaginal hysterectomy it is superior, also in cancer cases because it more nearly destroys the tissues which compose the stumps or pedicles and thus diminishes the chance of recurrence. It is also of distinct advantage because it does away with the difficult and tiresome method of ligation and the very objectionable use of the clamp, and thereby facilitates an important part of the operation, i. e., the closure of the peritoneal cavity. By avoiding ligatures it prevents secondary hemorrhage and also of infection from such ligatures in their becoming infected before they are absorbed or cast off.

91. **Congenital Dilatation of the Gall Bladder.**—Miller reports and illustrates an interesting case in a child two and one-half years old and reviews the literature of the subject. He thinks it unquestionable that the cyst was a tremendous dilatation of the gall bladder and bile ducts beginning at an early period of intrauterine life; that the common duct was partially obstructed, probably at first by a catarrhal inflammation or calculus and later by the dragging down of the heavy cyst, and that the deformity of the liver was produced by the pressure of the tumor interfering in its development and by atrophy of the liver cells. The case was treated by draining the cyst, hoping that the dilated gall bladder and ducts, being relieved of their contents, would contract and the bile pass along its natural route. If the gall bladder had contracted to a small size and the fistula remained open, and the child suffered from absence of bile in the intestine, his intention was to do a cholecystenterostomy. He has not yet done this on account of certain difficulties, but is keeping in touch with the patient, and it can be done if required.

92. **Round Ligament Tumors.**—Two cases are reported and the frequency, etiology, pathologic anatomy, symptoms, diagnosis and treatment are discussed by Lewis. He thinks these tumors are comparatively rare or are certainly not often reported. There is comparatively little in the literature on the subject. The diagnosis has been frequently studied by Duplay, Sanger and Guinard. The only treatment is extirpation.

93. **Club-Foot in Children.**—In young children Shands holds that the cure of club-foot is comparatively easy, but after they have started to walk the difficulty is increased. The only requirement is a succession of plaster bandages properly placed, and this can be done with simply the assistance of the child's nurse. His method of applying the plaster and treatment is as follows:

First apply a piece of cotton felt to both the outer and inner borders of the foot, extending it over the malleoli. This is done as an extra precaution for the protection of the bony prominences, being needed especially over the metacarpo-phalangeal joint of the great toe and over the cuboid bone—this being usually very prominent. Then apply at least two thicknesses of a canton flannel

bandage to the foot and leg, extending it to the tuberosity of the tibia. Now having the foot and leg well protected, the plaster is applied also up to the tuberosity of the tibia. This will prevent moving in the plaster cast and giving a better leverage when the existing process is begun. Care should be had to have the toes placed in their natural relation to each other; otherwise you will have an uneven pressure, and, as a result, swelling and pain. The plaster should extend well over the toes, but their ends should be exposed. While waiting for the plaster to set, grasp the leg with one hand, holding it firmly on the table, and with the other press on the plantar surface with a piece of board; this serves the purpose of overcoming some of the deformity and gives a flat surface on which the child can walk better. When ready to begin the redressement cut out a wedge-shaped piece of plaster on the outer border of the foot over the most prominent part of the deformity, for here the greatest pressure is needed, then connect the upper and lower angles of this cut by cutting a line through the plaster entirely around the foot. Of course, it is intended that these cuts should extend only through the plaster. Care should be taken not to allow this cut around the foot to be near enough to the heel to allow the front part of the foot to move in the dressing when the foot is twisted, for then you would defeat the object in view. The plaster cast is now in two pieces, each firmly fixed to the foot. By grasping the leg with one hand and the end of the foot with the other, it takes but little force with this leverage to bring the opposite sides of the wedge-shaped incision into apposition, which corrects a certain amount of the deformity. While an assistant holds the parts in their new relation one to the other, they are fixed there by a wet plaster bandage applied around the foot and ankle in a figure-of-eight, care being taken to fill in well the gap made by the linear incision on the inner side of the foot. This third bandage being applied over a dry plaster cast, can be easily peeled off at the next sitting; then make the wedge-shaped incision larger, and repeat the redressement as before. This can be repeated three or four times, when it will become necessary to apply an entirely new dressing. Great care should be taken lest you get compressed between the edges of the plaster, when forced together, a fold of loose skin, which would likely cause a bad ulcer. This was learned by experience, for in one of my cases I had a bad ulcer that necessitated suspending the treatment until it was cured.

The number of sittings will have to be in accordance with the circumstances. Dressing should be done about three times a week until the foot is in a normal position and then once a week until the desired amount of over-extension is obtained, when a permanent dressing is applied, and kept on, as a rule, for six months after the child begins to walk. When it is left off the closest watch should be kept, and as soon as there is any tendency to a return to the old conditions the foot should be put up again in a plaster cast. The treatment requires a great deal of patience and persistence and the cooperation of all parties. The surgeon must watch all details. He must make the parents divide the responsibility by impressing on them that they have a very important part to perform.

94. **The Action of the Uterus During Labor.**—Sothoron's theory of the action of the uterus during labor appears to be practically the same as one that has been suggested before, namely, that the circular fibers lose their power and become practically obliterated at the close of gestation, and the less-interfered-with action of the longitudinal fibers produces the delivery. It is not the action of the sphincter portion of the uterus that causes the labor.

95. **The Kidney in Pregnancy.**—This paper is based on urinary examinations in eighty-five women at various periods of pregnancy. Stewart claims from his findings that pregnancy does not cause so much disturbance as most authorities would have us believe; that is, that it is not a process that tends toward a destructive action of the kidneys. There must be the coexistence of secondary causes, if we choose to so call them, which tend to increased activity on the part of the kidney to a possible exhaustion of kidney tissue. In nearly all the cases where albumin was present, the unloading of the intestinal tract and incidentally of the kidneys, restored the patients to practically normal conditions. Pregnancy is a physiologic process in physiologically normal women. It is abnormal in many cases under our systems of education and training. To these we must look for the causes of albuminuria and nephritis.

Journal of Medical Research, Boston.

August.

96 The Relation of Specific Gravity and Osmotic Pressure to Hemolysis. Clarence Quinan.
97 *The Dysentery Bacillus in a Series of Cases of Infantile Diarrhea. Martha Wollstein.
98 The Reaction of Certain Water Bacteria with Dysentery-immune Serum. D. H. Bergey.
99 The Connection Between the Alkalinity of Certain Bacterial Filtrates and Their Hemolytic Power. Edwin O. Jordan.
100 *A Study of the Proteolytic Enzymes and of the So-called Hemolysins of Some of the Common Saprophytic Bacteria. A. C. Abbott and N. Gildersleeve.
101 An Experimental Study of the Bacteriolytic Complement Content of the Blood Serum in Normal, Vaccinated and Variolated Rabbits. Ralph L. Thompson.
102 The Bacteriolytic Complement Content of the Blood Serum in Variola. Ralph L. Thompson.
103 The Non-identity of Agglutinins Acting on the Flagella and on the Body of Bacteria. Theobald Smith and Arthur L. Reagh.
104 Mucin as a Bacterial Product. Leo F. Rettger.
105 The Fats of Pneumonic Exudations. Harry A. Christian.
106 Observations on the Coagulation Time of the Blood and the Blood Plates. Joseph H. Pratt.
107 The Physical Chemistry of Milk. Lawrence J. Henderson.
108 *Mercurial Diuresis. M. Vejux-Tyrode and Louis Nelson.
109 On a Difference in the Influence on Inflammation Between the Section of the Sympathetic Nerve and the Removal of the Sympathetic Ganglion. S. J. Meltzer and Clara Meltzer.
110 *The Pathologic Changes in the Nervous System in a Case of Lead Poisoning. William G. Spiller.
111 On an Abnormal Thoracic Duct. Charles S. Butler.

97. **Dysentery Bacillus in Infantile Diarrhea.**—Wollstein finds that cases of infection by dysentery bacilli in infants tend to a clinical picture of dysentery with frequent mucous and bloody stools. In some cases of hospital infection following other diseases, especially pneumonia, and in other mild cases, the stools may not contain blood, but mucus is always present and in large amounts. The serum reaction is uncertain for one week, frequently positive after the sixth day, but may be absent for two weeks. It can not be relied on for early diagnosis in infants and young children. The only positive evidence during life is the isolation of the *Bacillus dysenteriæ* which is present in the stools for two or three weeks, but may remain longer. The type of organism almost invariably found in New York City is that of the Manila or Flexner bacillus.

100. **Proteolytic Enzymes.**—The deductions drawn from their study by Abbott and Gildersleeve are:

1. That the destiny of non-toxic, though otherwise physiologically characteristic products of bacterial life in the body, is determined by the presence of specific neutralizing substances that can be demonstrated in the circulating blood. 2. That, by the customary methods of artificial immunization, the amount of such antidotal substances in the blood may be increased, but only to a slight degree. 3. That, through the use of sera from animals, immunized from the non-toxic bacterial products, poor though such sera are in specific immune-body, it is possible to distinguish the proteolytic enzymes resulting from the growth of different bacterial species from one another, as well as from certain physiologically analogous enzymes of animal origin. 4. That the proteolytic enzymes elaborated by certain bacteria in the course of their growth are much more resistant to high temperatures than is generally supposed; some being capable of exhibiting their characteristic function after exposure in the moist state to a temperature of 100 C. for fifteen to thirty minutes. 5. That the so-called hemolysins of bacterial origin are, at least in some cases, probably proteolytic enzymes. 6. That it is possible by experimental means to contribute material support to the doctrine of Welch concerning the origin of "bacteriogenic cytotoxins."

108. **Mercurial Diuresis.**—From experiments on rabbits Tyrode and Nelson find they can not agree with Cohnstein's conclusion in regard to excessive diuresis from mercury. They find no difference in their results, whether the animal was anesthetized with chloral or urethan. The results were decidedly irregular on the animals. This explains to a great extent the discrepancies between the opinion of different clinicians as to the value of mercury as a diuretic. Without doubt, the individual difference in susceptibility to mercury is very great. The diuretic action is explained by two factors: The local irritation of the kidney and possibly an action on serous membranes influencing the absorption of fluids from them.

110. **Lead Poisoning.**—From the study of a case reported and of the literature, Spiller concludes that lead affects the brain and its pia, the nerve cells of the anterior spinal horns, the ganglia on the posterior roots, the peripheral nerve fibers and the muscles. It seems to be impossible to tell whether its effects are first manifested in the alteration of the peripheral motor fibers or of the motor cell bodies of the spinal cord, but since both peripheral motor fibers and motor cell bodies are sooner or later affected, the question is not important. The significance of the proliferation of endothelial cells of the capsules in the spinal ganglia and on the cerebral pia is difficult to determine.

American Practitioner and News, Louisville.

July 15.

112 Timely Operation in Primary Appendicitis. William H. Wathen.
113 Some Things the Obstetrician May Do to Assist the Lying in Woman, and Some Things He Would Better Not Do. T. J. Shoemaker.

114 Biographical Sketch of Drs. Davis, Pusey, William B. Caldwell and Preston B. Scott. T. B. Greenley.
115 Anesthetics. C. H. Todd.
116 Solitary Ulcer of the Bladder, Non-traumatic and Non-tubercular in Origin. G. E. Armstrong.

Virginia Medical Semi-Monthly, Richmond.

August 21.

117 The Modification of Cow's Milk for Artificial Infant Feeding. W. E. Norton.
118 Importance of Correct Diagnosis. C. W. Watts.
119 Case of Only One Kidney. Joel Crawford.
120 The Etiology and Pathologic Anatomy of Aneurism. W. Lowndes Peple.
121 Concerning the Symptomatology of Thoracic Aneurisms. Truman A. Parker.
122 Gelatin Treatment in Aneurism. Ennion G. Williams.

Canadian Journal of Medicine and Surgery, Toronto.

September.

123 The Humors of a Country Practice. E. H. Stafford.
124 The Early Days of Ovariotomy. Matthew D. Mann.
125 Some Business Aspects of Medical Practice. N. A. Powell.

Medical Age, Detroit.

August 10.

126 Ante-revolutionary American Graduates of the University of Edinburgh. Rush McNair.
127 Phthisiophobia. A. L. Benedict.
128 The Modern Care of the Insane. W. T. Parker.

Iowa Medical Journal, Des Moines.

August 15.

129 Radical vs. Palliative Measures in Gynecology. Van Buren Knott.
130 Observations and Impressions of Medicine and Medical Men Abroad. G. E. Crawford.
131 Some Needs of the Department of Health. J. A. Valenta.

The Post-Graduate, New York.

August.

132 Acute Pelvic Cellulitis. Charles F. Adams.
133 The Diagnosis and Treatment of Syphilis of the Nervous System. Graeme M. Hammond.
134 The Catheterization of the Ureters. Henry G. Spooner.
135 Sixth Report of the Committee of Inspection Appointed by the Executive Committee of the Post-Graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-Graduate Hospital, New York, 1903.
136 Notes from the Clinics. Wendell C. Phillips.

Medical Mirror, St. Louis.

August.

137 Doctorate Address, Jenner Medical College, Chicago. G. Frank Lydston.
138 A Sleigh Ride in Russia. J. W. Wainwright.
139 A Dangerous Commodity. W. L. Bullard.
140 The Rights of Children. J. W. Wainwright.
141 Pathology of the Uric Acid Diathesis. William E. Fitch.

Fort Wayne Medical Journal-Magazine.

August.

142 The Welfare of Coming Generations. H. V. Swerингen.

Cleveland Medical Journal.

August.

143 Hydrotherapy in Pediatrics. M. Borts.
144 Sarcoma of the Choroid in a Child. William E. Bruner.
145 Sporadic Cretinism, with Report of Cases. J. P. DeWitt.
146 The Dangers of Adenoids. S. H. Large.

Detroit Medical Journal.

August.

147 The Treatment of Anal and Rectal Diseases without General Anesthesia. William L. Dickinson.
148 The Rational Treatment of the Opium Habit, with Report of Unusual Recovery. Samuel Bell.
149 Chlorosis. William Appelbe.
150 Only a Drop of Pus. Francis J. W. Maguire.

Interstate Medical Journal, St. Louis.

August.

151 Remarks on Cancer of the Prostate and the Selection of Cases for Suprapubic Prostatectomy. Reginald Harrison.
152 Ringworm. William Frick.
153 Cancer of the Omentum. James A. Matlack.

Bulletin of the American Academy of Medicine, Easton, Pa.

August.

154 *The Teaching of Hygiene in the Public Schools. The Teaching of Personal Hygiene. Walter L. Pyle.
155 Physiology vs. Hygiene in Our Public Schools. George G. Groff.
156 The Teaching of Physiologic Breathing. G. Hudson Makuen.
157 *The Desirable Organization for a Department of Hygiene in Public Schools. Helen C. Putnam.
158 The Michigan Method of Teaching Sanitary Science or Hygiene in the Public Schools of the State. Victor C. Vaughan.
159 *The Training of Teachers of Hygiene for Public Schools. Thomas D. Wood.
160 *Gonorrhea Insontium, Especially in Relation to Marriage. Prince A. Morrow.

154.—See abstract in THE JOURNAL, xl, p. 1528.
157.—Ibid., p. 1528.
159.—Ibid., p. 1528.
160.—Ibid., p. 1602.

Wisconsin Medical Journal, Milwaukee.

August.

161 Address, State Medical Society of Wisconsin. J. V. R. Lyman.
162 *The Practical and Scientific Value of Bacteriologic Examinations of the Blood During Life. Ludvig Hektoen.
163 The Diagnosis of Pericarditis. L. F. Jermain.

162.—This article appeared elsewhere. See THE JOURNAL of July 18, ¶64, p. 208.

Canadian Practitioner and Review, Toronto.

August.

164 The Surgical Treatment of General Purulent Peritonitis. J. F. W. Ross.
165 The Medical Treatment of Advanced Pulmonary Disease. J. Frank McConnell.
166 The Operative Treatment of Goiter. George A. Bingham.
167 Appendicitis from the Standpoint of the Country Doctor. John W. S. McCullough.

Medical Fortnightly, St. Louis.

August 25.

168 Adenoids. A. L. Adams.
169 Resection of the Chest Wall for Recurrent Carcinoma of the Breast. Emory Lanphear.
170 Rupture of the Uterus During Labor. S. R. Hopkins.
171 Different Methods of Dealing with Stone in the Bladder. J. P. Bryson.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

August 29.

1 *The Pathology and Treatment of Chorea. D. B. Lees and others.
2 *The Relation of the Thyroid Gland to Marasmus. John Ruhrah.
3 *The Age for Operating in Cleft Palate. R. W. Murray.
4 *A Discussion on Congenital Dislocation of the Hip. F. F. Burghard and others.
5 *Splenomegaly in Infants and Young Children. George Carpenter.
6 On the Utilization of Infants' Milk Depots. T. D. Lister.
7 *Tuberculosis in Children: Its Relation to Bovine Tuberculosis. Nathan Raw and others.

1. **Chorea.**—Lees points out that there is much more of the brain affected than the Rolandic area in chorea. It is probably a disorder of the whole cerebral cortex, probably of the whole brain and possibly of the nervous system in general; not, however, a destructive one, but one usually ending in complete recovery. The morbid blood condition with which he thinks this is associated is rheumatism and both the disorders are probably due to the same infection. In support of this view he suggests that while the evidence is scanty, it is extremely suggestive; for example, a rabbit injected with a culture of the diplococcus to which rheumatism has been attributed develops something very closely resembling chorea in a child. Poynton has found the diplococcus in the cortex in cases of chorea though the cultural test was not effected, owing to the age of the specimen. Dana, Apert, Wassermann and others have isolated the diplococcus from the brain in fatal cases of chorea, though its identification with the rheumatic diplococcus has not been thoroughly made. He thinks, therefore, we can say that chorea is cerebral rheumatism in the great majority of cases, though the statement can not be made absolute for other toxins and microbes may possibly affect the cortex cells in the same way. It is even possible that sudden emotional disturbance may produce a toxin acting similarly. The difficulty in these cases, however, is to prove the absence of rheumatism. The deduction made from these facts is that the treatment for chorea and that of rheumatism should be similar. He therefore advocates the use of sodium salicylate with the addition of alkali, something like twice the amount of sodium bicarbonate as of salicylate of sodium to the dose. He thinks this combination is of considerable importance and in a great number of cases it has produced rapid improvement. The success seems to depend on the amount given daily. The dose of sodium salicylate for a child of 6 to 10 years should

be at first 10 gr. to 20 of sodium bicarbonate; after two or three days the quantity may be increased to 15 and 30 grains respectively; after two or three more days to 20 and 40 grains every two hours during the day and every three hours during the night; 10 doses in the twenty-four hours; thus increasing the daily dose from 100 gr. daily to 150 and finally to 200 gr. A careful watch should be kept for any symptoms of salicylate poisoning, especially for the peculiar deep inspiration. If this occurs medicines must be immediately given up, as it is a sign of danger. This air hunger symptom, however, is of rare occurrence. He believes this, with rest, is the most successful treatment for acute chorea. For chronic cases it may be less successful and time may be an essential factor. Arsenic in large doses sometimes produces distinct improvement, but he thinks there is the danger of arsenical neuritis. In the discussion Fisher noted some complications of chorea, especially the occurrence of cardiac lesions. Osler's experience is very similar. He shows that some facts seem to point to the probability that if the heart escapes during the first attack of chorea it is not likely to suffer in subsequent attacks, but some reserve should be held on this point.

Poynton pointed out the bacterial facts in regard to chorea, tabulating them briefly as follows:

1. Micro-organisms of the streptococcal group have been isolated from rheumatic fever. 2. They have been isolated from the cerebro-spinal fluid and brain itself in chorea. 3. They have been demonstrated in the pia mater and brain. 4. Involuntary movements of a peculiar type have been recorded by Paine and myself and F. Meyer as resulting from intravenous inoculation of rabbits with such micro-organisms. 5. Identical bacteria are found in other rheumatic lesions in man, and are capable of producing the lesions of rheumatism in animals. 6. Chronic leptomeningitis has been noted in chorea by Dana. 7. The lesions found after death in acute chorea are such as one could explain on the view of an infection. I mean the minute thromboses and hemorrhages, occasional embolism, degenerative changes in nerve cells, and perivascular exudation commented on by Dr. Lees. These are, I admit, scanty and imperfect facts, but very suggestive ones. It would be a valuable contribution to our knowledge to have a detailed examination of the brain, in a series of cases of chronic rheumatic chorea. This is a difficult matter, but the finding of multiple focal lesions, such as have been discovered in Huntingdon's chorea, would add further evidence. How much of chorea is due to the focal lesions, and how much to the poisons of rheumatism, is at present a matter of speculation. I hold, however, to the view of chorea being an infection of the nervous system comparable to the infection of the nervous system in tuberculous meningitis rather than that of the nervous system in diphtherial paralysis. Though in entire agreement with Dr. Lees as to the association of rheumatism and chorea, I would not go so far as some and say it is always rheumatic. Remarkable cases of chorea after erysipelas, during tuberculous meningitis, and after measles, which I have met, make me very cautious on this point. As regards rheumatic fever and chorea I hold the view that one micro-organism is the cause.

2. **The Thyroid Gland and Marasmus.**—Ruhrah reports the results of studies of eighteen cases of marasmus. Excepting the terminal infection, atrophy of the thymus was the only lesion found in any of the necropsies. The changes consisted in marked atrophy with thickening of the capsule and trabeculæ. He reaches the following conclusions:

1. Atrophy of the thymus gland is always found in cases of infantile atrophy. 2. The condition of the thymus is an index of the general nutrition of the infant. 3. The state of the nutrition in infants may be estimated by a microscopic examination of the thymus at necropsy.

3. **Cleft Palate.**—Murray advocates early operation in cleft palate. Where there is a complete cleft both of the lip and palate he usually operates on the lip when the child is three or four weeks old, and delays operating on the hard and soft palate until the end of the second year. It is remarkable, he says, how closure of the lip influences the cleft of the hard palate. In a number of cases he has seen the alveolar gap practically disappear. This he thinks a good argument for delaying the operation on the palate; the narrower the cleft the easier the operation and the greater the probability of success.

4. **Congenital Dislocation of the Hip.**—The various methods of operation for congenital hip dislocation are noticed by Burghard, whose conclusions are given as follows:

1. All cases should be checked by radiography, and no "cure" should be spoken of that is not a true anatomical cure.

2. All cases of congenital dislocation under 14 years of age should be submitted to treatment. In the great majority improvement will result, while in some a true anatomical cure is brought about.

3. In all these cases Lorenz's manipulations should be tried in the first instance. Even should they fail to effect reduction, they facilitate any subsequent procedures.

4. The prospect of a cure by Lorenz's "bloodless method" is in direct proportion to the youth of the child, and after the age of 4 years there is little hope of a true cure by its means.

5. In any case, the chances of a true cure by the "bloodless method" are not very great.

6. An open operation should be done whenever a radiograph shows that the bloodless method has failed to reduce the dislocation, except, perhaps, in the case of a very young child—under 3 years—in whom the manipulations may be repeated.

7. With the open operation no fear need be entertained of shock, bleeding or sepsis.

8. Under no circumstances should the joint surfaces be remodeled.

9. An open operation is more calculated to result in a cure as it enables the surgeon to ascertain beyond a doubt when the head of the bone is really in the acetabulum.

10. The open operation is especially suited for cases over 4 years of age and for those of bilateral dislocation.

11. After the operation the limb should be put up in the position of maximum stability; in the majority of cases this will be similar to Lorenz's position. The limb should be put up in plaster of paris immediately, and the casing should take in the flexed knee; this is essential in order to ensure stability of the head of the bone.

12. All tense structures should be stretched or tenotomized as a preliminary measure a week or so previous to the open operation. The after-treatment is practically identical with that of the Lorenz method.

5. **Splenomegaly in Infants.**—It is pointed out by Carpenter that in very early life splenomegaly is frequent and occurs in about 40 per cent. of clearly syphilitic infants. He is inclined to think that Parrot's nodes are associated with splenic enlargement in about one-half of his cases of syphilitic manifestations. There are two important constitutional conditions usually associated with syphilis in infants and young children: 1. Syphilis; 2, rickets. There is also an undetermined cause or causes. There are difficulties, however, of excluding syphilis in some cases where the history is lacking. Syphilitic children are often not obviously anemic. Their color ranges from a doubtful pallor to a milk-and-water hue, with a bluish tinge about the lips, or to a lemon-yellow appearance. Petechiæ and bruises are not uncommon in the very severe cases, and lichen urticarius is not infrequent. Edema of the extremities and an occasional albuminuria were noted in some of the fatal cases. The relation of anemia to the spleen is not always perfectly clear. The liver is usually enlarged, sometimes trifling and sometimes markedly so. Some of the lymph glands may be slightly larger than normal. The prognosis depends on the blood condition. A great reduction in hemoglobin and in the number of the red cells, especially with alteration in size and form is not hopeful, and leucocytosis, apart from its being associated with a mild form of anemia, especially if marked, is not a good sign. Such children are liable to succumb to bronchopneumonia. In pernicious anemia the preponderance of megaloblasts over normoblasts is of bad omen. The characteristic of leukemia appears almost invariably to point to a fatal termination. The treatment should be preventive: proper food and hygienic environment. The anemia should be treated by fresh air, good food and the correction of bowel complaints. The rickets and syphilis require appropriate treatment. Of the drugs iron and arsenic are used as well as oxygen inhalations and seem to do good in some cases. A number of cases are reported.

7. **Tuberculosis in Children.**—Raw holds that man is attacked by two distinct varieties of tuberculosis: one by the infection of one person to another and the other by bovine bacilli in the milk or meat. He says primary intestinal tuberculosis, tabes mesenterica and other tuberculous affections of the serous membranes in children are probably bovine tuberculosis conveyed by milk and not related to the human tuberculosis. Tuberculous peritonitis cured by laparotomy is accounted for by him as localized bovine tuberculosis which has died out and the relief of fluid is sufficient to cure the patient. Bovine tuberculosis he believes is more virulent for children than the human tuberculosis. Scrofulous glands in the neck are also accounted for by him by the absorption of tubercle bacilli in milk through the tonsils or pharynx, and he thinks there is much evidence to suggest that acute miliary tuberculosis is also bovine in origin.

In the discussion, the rarity of tuberculous disease of certain types in India was mentioned by Reid, the medical officer of health of Tenby, taking his facts from the report of Dr. Crombie in 1899. The native habit of boiling all milk before using it, and the exclusion of beef from the food of a large

proportion of the native population would largely account for the infrequency of bovine tuberculosis in India, where tabes mesenterica is rare and tuberculous hip joint almost unknown.

The Lancet, London.

August 29.

8 The Surgery of the Ureter for Impacted Calculus and Some Other Causes of Obstruction. P. J. Freyer.
9 Four Cases of Empyema of the Gall Bladder. Leonard A. Bidwell.
10 The Surgery of Gastric Ulcer. A. B. Mitchell.
11 A Case of Automatic Wandering Lasting Five Days. W. S. Colman.
12 *A Note on the Etiology of Yellow Fever. James B. Tombleson.
13 A Case of Large Blood Cyst in the Arachnoid Space Simulating Brain Tumor; Operation; Recovery. James Taylor and Charles A. Ballance.
14 A Case of Ectopic Cordis. Isambard Owen and Morris J. Williams.
15 Intussusception of the Vermiform Appendix. F. Powell Connor.
16 A Case of Traumatic Aneurism of the Gluteal Artery Treated by Incision of the Sac and Ligature of the Artery During Intraperitoneal Compression of the Internal Iliac. Alan H. Muir.
17 *The Relation of the Thymus Gland to Marasmus. John Ruhrah.
18 A Series of Cases of Perforating Gastric and Duodenal Ulcers. B. G. A. Moynihan.

12. **Yellow Fever.**—Tombleson gives the results of his experience in Mexico, where he has found a bacillus in the urine and blood serum of yellow fever patients, which closely resembles the Sanarelli form, though he says there is considerable difference in the descriptions of that type. As he has seen it, it is from one-half to two microns in length, the shorter form being found more particularly in the blood and cultures and the longer forms in the tissues and very old cultures. It is actively motile in its middle-sized forms, though hardly so in the longer forms. It stains well with all the ordinary stains, also with Gram's method. For demonstration in the tissues the best results are obtained by staining for one hour in toluidin blue, decolorizing with very faintly acid alcohol and counter-staining with eosin. It grows well on all the ordinary artificial media and in broth. It is very resistant to heat, which makes him think that it forms spores. Why it has not been oftener seen he thinks is possibly due to the fact that it is usually missed unless it occurs in very large numbers. He thinks there are times when it is more frequent in the blood than others. He has found it pathogenic in lower animals and to produce a very similar condition to yellow fever in a monkey. He thinks that it may be transmitted not only by *Stegomyia*, but also by the *Culex fatigans* or other foul feeding mosquitoes, taking up its spores. He believes that it is really the cause of yellow fever, and insists on its value as a method of early and certain diagnosis in doubtful cases, as well as on account of the evidence which it produces as to the means of spread of the disease. It is a proven fact, he says, of course, that certain mosquitoes carry the germ, but he thinks that beside this means of transmission, we must consider the possibility of the disease being spread by the inhalation of spores produced in the open air by the growth of the bacillus in urine, which is thrown on the ground in 99 cases out of 100. This explains how drainage has practically cleared Havana of yellow fever, while he does not think the number of mosquitoes is materially lessened there.

17.—See also ¶2, above.

Annales de l'Institut Pasteur, Paris.

Last indexed XL, page 161.

19 (XVII, 4.) Flagellose parésiante des équidés sud-américains. Elmassian and Migone.
20 Le bacillus subtilis comme cause de la panophthalmie chez l'homme (in man). Silberschmidt.
21 Sur un nouveau streptothrix: St. polychromogène. H. Vallé.
22 Existence of the Rabic Virus at the Site of the Bite in a Child Who Had Died from Hydrophobia. D. Pace (Naples). —Sur l'existence du virus rabique dans le siège de la morsure.
23 La rabies dans l'Afrique du Sud. A. Loir.
24 Colorabilité des bacilles de Koch dans les sputa incorporés à diverses substances. J. Sabrazès.
25 (No. 5.) Recherches sur l'absorption de la toxine tétanique. V. Morax and A. Marie.
26 Etude des substances actives des serums normaux. Sur la pluralité des alexines. L. Remy.
27 Sur la non-existence des "neutrophiles" d'Ehrlich dans le sang de l'homme et du singe (in blood of man and monkey). F. Marino.
28 (No. 6.) Recherche sur la physiologie d'une algue. P. G. Charpentier. (Commenced in No. 5.)
29 Study of Cleonus punctiventris. J. Danysz.—Les entomophytes du charançon des betteraves à sucre.
30 Automatically Closing Cuspidor. A. Fournier.—Crachoir stérilisable à fermeture automatique.
31 (No. 7.) Rôles des amibocytes dans le coelome d'un annelide. Siedlecki.
32 *La dysenterie epidémique. L. Vaillard and C. Dopter.
33 Etude des microbes nitrificateurs. L. Massol.
34 Sur l'existence de l'arsenic dans l'oeuf des oiseaux (in eggs). G. Bertrand.

32. **Epidemic Dysentery in France.**—Vaillard found in his examinations a microbe, evidently the causal agent of the epidemic dysentery, which was apparently identical with the Shiga bacillus. It was not agglutinated by serum from tropical dysentery.

Archives Gen. de Medecine, Paris.

Last indexed page 211.

35 (Vol. 192, No. 25.) La prophylaxie du paludisme par les sels de quinine. Expériences faites en Corsica. J. Michon. (See abstract page 397.)
36 Deux sujets refractaires à l'alcool. Follet (Rennes).
37 (No. 26.) De la phase cardiaque des aortites syphilitiques. Myocardite et endocardite vraie d'origine spécifique. L. Gallavardin and J. Charvet. Two cases.
38 (No. 27.) Désarticulation inter-ilio-abdominale et amputation intra-iliaque. H. Morestin.
39 Recherches cliniques sur la modalité des troubles pupillaires chez les tabétiques. A. Rochon-Duvigneaud and J. Heitz.
40 (No. 28.) Hay Fever in the Country. R. Belbèze.—Remarques sur 7 cas d'asthme ou de rhume des foins.
41 La rhino-laryngite sèche. Forme inverse de l'asthme des foins (dry hay fever). P. Bonnier.

Bulletin de l'Academie de Med., Paris.

Last indexed page 690.

42 (No. 30.) *La phlegmatia alba dolens des typhiques et le régime hypochlorurique. A. Chantemesse.
43 *Recherches expérimentales sur les singes anthropoides. Roux and Metchnikoff.
44 Thoracentèse, sans aspiration, au moyen d'un drain à valves formant soupape. Boinet.

42. **Cure of Phlegmasia Alba Dolens by Deprivation** of Salt.—Chantemesse found rapid improvement follow the systematic withholding of salt in cases of white swelling complicating typhoid fever. The results confirmed his theoretic assumption that the phlegmasia alba dolens in typhoid fever is the result of the intoxication of the limb by the salt retained in the organism during the course of the disease. His research verifies that of others in regard to the defective elimination of sodium chlorid in typhoid fever, and that the salt does not remain in the blood, but passes rapidly into the tissues. The connective tissue takes it up the more readily, as its vitality has been impaired by the infection. In 2 of his 6 typhoid patients treated by feeding them on unsalted meat bouillon, lactosed water and unsalted bread, the phlegmasia alba dolens had persisted for six and ten weeks and showed no tendency to improve under rest and the usual measures. Two other cases were recent and extremely painful. The swelling had followed thrombosis of the saphena. In the other cases there was thrombosis, but the swelling had not developed. All the patients showed marked improvement, and no swelling developed in the last 2 cases. The swelling subsided visibly from day to day, more rapidly in the recent cases. Return to salted food was invariably followed by a slight increase in the swelling. The coagulation in the veins seemed to soften and be absorbed more promptly than is customary in such cases. He believes that the thrombosis is merely the predisposing cause for the phlegmasia, which is essentially due to the local retention of sodium chlorid. He derived similar benefit in the case of an elderly woman who suffered from thrombosis in inflamed varices. There was retention of chlorids and slight albuminuria. The pain and tumefaction of the limb subsided completely after two days of unsalted food.

43. **Transmission of Syphilis to a Chimpanzee.**—Roux and Metchnikoff exhibited a young female chimpanzee which had been inoculated on the genitals with syphilitic virus from two syphilitic patients, from a chancre on one and from an ulcerated patch near a healed hard chancre on the other. Five days later she was inoculated with virus from a hard chancre only three days old. The points of inoculation soon healed and for three weeks there were no symptoms, but on the twenty-sixth day one of the points near the clitoris developed a chancre, and in the course of time the inguinal ganglia became enlarged, so that when the chimpanzee was exhibited, the forty-

sixth day, she presented a typical syphilitic chancre, acknowledged to be such by Fournier. He remarked that he was almost ready to burn his ships behind him and proclaim that the transmission of syphilis to an animal had been accomplished, but that he believed after all he would wait to see whether secondary symptoms develop before final judgment, although he granted that the lesion resembled in every respect a typical chancre and the duration of the incubation also coincided with that of syphilis in man, as also the pleiad of enlarged glands, four on one side and three on the other. The glands have also the characteristic dry hardness and are absolutely indolent. Roux and Metchnikoff expressed their gratitude for the large sums of money recently awarded to them in the Osiris and the International Medical Congress prizes, which enabled them to conduct this research. They think the positive result is due to the choice of an animal so closely resembling man as the anthropoid chimpanzee. Fournier mentioned the model monkey house installed at one time in Dr. Krishaber's residence where he had inoculated large numbers of ordinary small monkeys with simple chancre, with success in 62 per cent. of 142 inoculations. He then proceeded to inoculate the monkeys with syphilitic chancre, but not one of the 20 animals responded positively to the inoculations.

Presse Medicale, Paris.

45 (No. 65.) Actinomycose du doigt. A. Sicard.
46 Posologie et action thérap. de l'arsénite et de l'arséniate de quinine. N. P. Bénaky (Smyrna).
47 *Tuberculous Rheumatism in Children. V. Bentz.—Quelques observations de rheumatisme tub. chez les enfants.
48 *Traitement de l'eléphantiasis du scrotum. A. Marques (Pernambuco, Brazil).
49 (No. 66.) La méthode de Freyer. Prostatectomie totale transvésicale par voie sus-pubienne. Jarvis and R. Proust.
50 Sur une forme de ptosis non-congénital et héréditaire. Delord.

47. Tuberculous **Rheumatism in Children.**—Bentz describes and illustrates cases of what he decided by exclusion to be tuberculous rheumatism. The affection took the arthralgic form in 2 cases of Pott's disease, and after the rheumatism had subsided, the latter continued its course apparently unmodified by the former. Beside these cases he observed one of rheumatism in the foot and knee on the side opposite a tuberculous hip affection, and a fourth case of rheumatic arthralgia in the shoulder, elbow, knee and foot, accompanying a tuberculous knee lesion. Not the slightest benefit was derived from sodium salicylate in any of these cases, although the pains and symptoms simulated those of acute rheumatism in the joints involved. He also observed a case of a chronic arthritis in both knees co-existing with a suppurative osteitis of the left tibia and progressing to recovery without presenting any of the characteristics of a white swelling.

48. Operative **Treatment of Elephantiasis of Scrotum.**—Marques shows in 5 cuts the various steps of Saboia's method of removing the excess of tissue in this condition. He has performed the operation himself thirty times and seen it performed a hundred more. The results have always been highly satisfactory in every respect. When the operation is completed the scrotum is of the normal size and shape with merely a Y-shaped sutured incision as traces of the intervention. The arms of the Y embrace the root of the penis. There is seldom much hemorrhage, and it is readily controlled. The co-existence of a hernia renders the outlook less favorable, otherwise it is a simple, easy operation.

Semaine Medicale, Paris.

51 (No. 33.) *Are Hospitals for Contagious Diseases Centers of Infection for the Neighborhood? F. Farnarier (Paris).—Les hôpitaux de contagieux constituent-ils des centres d'infection pour le voisinage?
52 French and German National Statistics of Mortality and Morbidity.—Etablissement de tables nationales de mortalité et de morbidité en France et en Allemagne.

51. Are **Contagious Disease Hospitals Centers of Infection** for Their **Neighborhood?**—Farnarier publishes a number of diagrams showing the mortality from infectious diseases in the various wards in Paris. It is evident at a glance that certain wards suffer much more than others from diphtheria and, to a lesser extent, from scarlet fever. It is also shown that these wards are the ones that contain the hospitals for diphtheria and scarlet fever cases. The fact is thus established that diphtheria certainly, and scarlet fever probably, do radiate from hospitals where cases of these diseases are admitted. He discusses whether such institutions should be removed to the outlying parts of the city, and concludes that there is no occasion for the inconveniences of such an extreme measure. It would be sufficient to prevent contagion, he thinks, to have such hospitals built in the form of small, isolated pavilions, surrounded with trees, and fenced in to allow a wide "dead space" around them.

Berliner Klinischer Wochenschrift.

Last indexed page 400.

53 (No. 28.) *Zur Aetiologie und spezifischen Behandlung des Herbstkatarrhs (fall catarrh). Dunbar.
54 *Der Pest-Bazillus und das Pest-Serum. E. Martini (Berlin).
55 *Bactericidal Action of Radium Rays. R. Pfeiffer and E. Friedberger (Königsberg).—Ueber die bakterientödtende Wirkung der Radiumstrahlen.
56 (No. 29.) *Experimental Tuberculosis. H. Kossel (Berlin).—Mitteilungen über Versuche an Rindern mit Tuberkel-Bazillen verschiedener Herkunft.
57 *Ueber einige Zeit und Streitfragen aus dem Gebiete der Tuberkulose. J. Orth.
58 *Zur Pathogenese des Pertussis. G. Arnheim (Berlin).
59 *Gall Bladder Colics without Gallstones. H. Krukenberg (Leignitz).—Ueber Gallenblasenkoliken ohne Gallensteine.
60 Der Berliner Pest-Fall in seiner epidemiologischer Beziehung. F. Plehn.

53. **Fall Catarrh.**—Dunbar is convinced that he has fully established not only the etiology of hay fever, as previously announced, but also that of fall catarrh. He remarks that this affection does not occur elsewhere than in the United States, and is due to the pollen of the golden rod, rag-weed, hog-weed, etc. The toxin of these pollen grains differs from that of the pollen of the graminaces to which he attributes hay fever. At the same time, the symptoms of irritation induced by the pollen of the golden rod were rapidly cured by the grass pollen antitoxin which he is producing. (See THE JOURNAL, p. 139.) He has found that hay fever asthma was promptly relieved in many cases by external application of the pollen antitoxin to the nose. He prepares the antitoxin now in the form of a powder and reports good results from it. The patients do not become accustomed to its use, and it has never induced any injurious by-effects in his experience, not even on the kidneys.

54. **The Berlin Plague Serum.**—Martini reviews the literature on bacteriologic diagnosis of the plague and reports the technic and tests of antiplague serum. The serum made at Berlin is bactericidal.

55. **Bactericidal Properties of Radium Rays.**—The tests described were made with only 15 mg. of radium bromid, but they established that the rays possess a positive inhibiting action on cultures of typhoid and cholera germs under certain conditions.

56 and 57. **Report of Tuberculosis Tests by Special Committee.**—Bovine bacilli induced first a local, then a general infection, but bacilli from human tuberculosis never caused more than the local lesion in 19 tests with pure bouillon cultures from sputa or tissue from severe cases of tuberculosis, as also from 7 cases of bone, neck and urogenital tuberculosis which Koch has suggested may be similar to the *Perlsucht* in cattle. The results of the tests were different in 2 out of 6 cases of miliary tuberculosis. Four calves inoculated with a pure culture of tubercle bacilli from a miliary tuberculosis of the mesenteric glands of the same child, all exhibited dissemination of the lesions over the body, as in *Perlsucht*, although not quite so violent. The same result followed inoculation of a second culture derived from a caseous gland in the neck. General infection resulted. The results of the inoculation were negative in tests with pure cultures from 7 cases of intestinal tuberculosis, with the exception of 2 cases in which the cultures seemed to be very pathogenic for calves. They were derived in one case from a caseous abdominal gland in a child who had succumbed to scarlet fever, and in the other from a child who had died with peritonitis. These cases displayed such pathogenic power for calves that Kossel accepts that they must have been cases of infection of the children with bovine tuberculosis, that is,

Perlsucht. In all, tubercle bacilli from 39 different sources were examined, including 16 children. With 19 there was not the slightest evidence of pathogenicity; with 9 a local focus was induced, with no tendency to dissemination. With 4, all derived from children, a general infection resulted which ran a course similar to mild bovine tuberculosis infection. In only 2 of the 4 had the death of the child been due to the tuberculous process. Orth refers to his similar experiments, which resulted in general infection of 2 calves out of 5 inoculated with human tubercle bacilli. He remarks that it is for Koch now to explain why his experiments all resulted negatively when others always obtain a certain proportion of positive results.

58. **Bacteria of Whooping Cough.**—Arnheim reiterates his claims made three years ago in regard to the specificity of the bacteria isolated by him from the throat of children with pertussis. In 8 cadavers he found the laryngeal and pharyngeal mucosa inflamed with hemorrhagic points and foci of these bacteria. He did not find any specific substance toxic for the nerves.

59. **Gall-Bladder Colic Without Gallstones.**—In Krukenberg's 2 cases no stones were found, but the gall bladder seemed to be abnormally movable.

Centralblatt f. Bakteriologie, etc., Jena.

61 (No. 9.) Beitrag zur Kenntnis der Kapsel-Bacillen. Milan Sachs.
62 Bakteriologische Untersuchungen bösartigen Geschwülste (malignant tumors). R. Alessandri (Rome).
63 Study of Yeasts Pathogenic for Animals. E. Cohn (Halle).—Ueber die Klein'schen tierpatogene Hefe.
64 *Bactericidal Properties of Bone Marrow and Study of Etiology of Osteomyelitis. A. Hencke (St. Petersburg).—Die bakt. Eigenschaften, etc.
65 *Immunization of Guinea-pigs Against Tuberculosis. E. Levy (Strasburg).—Ueber die Möglichkeit Meerschweinchen gegen Tub. zu immunisieren.
66 Amount of Cholera-Immune Bodies Contained in Separate Albuminoid Elements of the Serum. A. Wolff.—Ueber den Gehalt der einzelnen Eiweissfraktionen des Serums (Globulin, Euglobulin, Albumen, etc.) an Choleraimmunkörpern.
67 Vergleichende Untersuchungen über Anti-Streptokokken-Sera, nebst einigen Bemerkungen über die Kultur und Virulenz der Streptokokken. P. Sommerfeld (Vienna).
68 Agglutinating Properties of Bile. A. Cantani (Naples).—Ueber die agglut. Eigenschaft der Galle.
69 Eine Typhus-Anreicherungs-Methode. E. Allschuler (Strasburg).
70 Determination of Typhoid Germs in Water. C. Hagemann.—Zum Nachweis von Typhuserregern im Wasser.
71 Technic of Freezing Mixtures for Preservation and Transportation of Samples of Water for Bacteriologic Examination. E. Bertarelli (Turin).

64. **Bactericidal Properties of Bone Marrow.**—Hencke proclaims that the bone marrow has very pronounced bactericidal power and frees itself of bacteria more rapidly and more effectually than the internal organs. He also states that he found a bacillus in 5 cases of spontaneous osteomyelitis, which invariably reproduced the typical affection in rabbits after intravenous injection without trauma.

65. **Vaccination of Guinea-Pigs Against Tuberculosis.**—Levy found that virulent bacilli of human tuberculosis became avirulent when kept for forty-eight hours in an 80 per cent. sterilized solution of glycerin, at a temperature of 37 C. Injected into guinea-pigs, these bacilli caused the formation of an abscess, but this soon healed. A series of five intraperitoneal injections of these glycerinated bacilli practically vaccinates them against tuberculosis infection. Injection afterward into the axilla of an otherwise fatal dose of virulent human tubercle bacilli, fails to induce more than a mild, rapidly-healing lesion. Not a trace of general tuberculosis could be discovered in the animals when dissected later. He made these injections into the axilla under conditions approximating as closely as possible those that prevail in human tuberculous infection.

Deutsche Zeitschrift f. Chirurgie, Berlin.

Last indexed page 290.

72 (LXIX, 1.) Zur Kenntnis der Perityphlitis. Neuhaus (König's clinic, Berlin).
73 Zur Lehre von der Bauch-Aktinomykose (of abdomen). M. Zondeck (Berlin). One case.
74 Invagination in der Esophagus der vorderen Magenwand (of anterior wall of stomach). Enderlen. One case.
75 *Three Cases of Suture of the Heart. Wolff (Barth's service, Dantzic).—3 Fälle von Herznaht wegen Herzverletzung.
76 Volvulus im Säuglingsalter (in infancy). Kredel.
77 *Drainage of Pelvic Abscesses Through Sciatic Foramen. M. Schmidt.—Zur Beckenabszessdrainage durch das Foramen ischiadicum.

75. **Suture of Heart.**—Wolff states that 39 cases have now been recorded of suture of the heart and the results indicate that suspicion of a stab wound of the organ imposes operative intervention, even in the absence of vital indications, as a prophylactic measure. On the other hand, wounds from firearms may be treated expectantly. In the former case the pleura has almost invariably been opened, and, therefore, it is not necessary to operate extrapleurally. The pericardium should be sutured, the tampon used only when the wound is infected. The button suture has proved most effective; the threads tied during the diastole. The left ventricle is most favorable for an operation of this kind as the patients are not so liable to bleed to death on the spot. The case reported by Pagenstecher confirms Bode's experimental research, demonstrating that the nourishment of the heart does not suffer materially after ligature of a coronary artery. Wolff reports 3 cases of suture of the heart, with 2 recoveries, and states that this brings the total on record to 42, with 17, that is, 40.4 per cent. recoveries. Only 1 was a firearm wound. Fischer's statistics showed that only 10 per cent. recovered in the unoperated cases. Wolff adds that intervention may be necessary and successful even in the absence of an external wound as witness a case described in the *Lancet* in 1897. A young man was kicked in the breast at football. Unconsciousness persisted and the heart dulness kept on increasing. The pericardium was incised and found filled with blood, but bleeding from the heart had ceased. After the blood had been drained away the young man was fully restored and was able to join in the game again.

77. **Drainage of Pelvic Abscesses Through Sciatic Foramen.**—Schmidt found that the foramen is easily and conveniently reached through an incision as for a Kocher resection. The results of draining by this route in the 3 cases described showed the feasibility and advantages of the procedure.

Mitteilungen a. d. Grenzgebiete d. Med. u. Chir., Jena.

Last indexed page 216.

78 (XI, No. 4.) *Enlarged Spleen and Hyperglobulia. J. Rosengart (Frankfurt a. M.).—Milztumor und Hyperglobulie.
79 *Ueber Appendicitis obliterans. Knud Faber (Copenhagen).
80 *Respiratory Disturbances in Exophthalmic Goiter; Goiter Asthma and Goiter Death. L. Hofbauer (Vienna).—Typische Athemstorungen bei M. Basedowii: ein Beitrag zur Lehre vom Kropfasthma und Kropftod.
81 Congenital Defects in Abdominal Muscles, etc. E. G. Stumme.—Ueber die symmetrischen Bauchmuskeldefecte und über die Kombination derselben mit anderen Bildungs-Anomalien des Rumpfes.
82 Endo-thoracic Giant Goiter. Hopmann.—Eine seltene Mediastinalgeschwulst.
83 Traumatic Rupture of Heart. Revenstorff.—Ueber traum. Rupturen des Herzens mit bes. Berücksichtigung des Mechanismus ihrer Entstehung.

78. **Spleen Tumor and Hyperglobulia.**—Rosengart describes the case of a man of 41 who had suffered for a long time from oppression in the heart region, dyspnea and vomiting. The blood was thick and dark red, specific gravity 1,072, hemoglobin 190 to 200. There were 10 million reds and 12,000 whites, all apparently of normal composition. The spleen was very much enlarged, and there was a peculiar purplish coloring of the face, hands and visible mucosæ. Venesection relieved the symptoms temporarily, but was abandoned after a few trials for fear it might incite to renewed regeneration of the blood, as it is known sometimes to do in chlorosis and anemia. Treatment with iodin to relieve the circulatory disturbances was supplemented by dieting to "un-iron" the patient, restricting him to sugar, rice, cereals, peas, dates, figs, plums and nuts. After eight months the reds had diminished by 1 million, the hemoglobin had fallen from 200 to 150 and the whites from 12,000 to 10,000. The outline of the spleen was still 30 by 15 cm. Rosengart believes that the syndrome was due to a primary tuberculosis of the spleen, and suggests the possibility that splenectomy might prove as effectual in such cases as in splenic anemia. The hyperglobulia he regards as a secondary reaction on the part of the bone marrow. He has found 6 cases on record of primary tuberculosis of the spleen.

In one it was a pure, primary tuberculosis of the organ; in 3 there was primary tuberculosis of the spleen and secondarily of the liver. In another the diagnosis was not certain, and in the other the details are too meager. Türk has reported a case of ten years' duration in which the hemoglobin when examined was 180 per cent. and the specific gravity 1,070.

79. **Appendicitis Obliterans.**—Faber states that the microscopic findings in appendices removed on account of chronic inflammation are identical with those discovered casually at autopsies which some regard as the results of senile involution.

80. **Respiratory Disturbances in Exophthalmic Goiter.**—Hofbauer distinguishes between the primary disturbances and those induced secondarily by mechanical compression of the trachea by the struma—cardial and bronchial asthma or hysteria. The primary are characterized by the shallowness of the respiratory curve, protracted inspiration and expiration, irregularity in the shape and size of the curves, with intervals of pauses in the respiration, more or less complete. There is another form of the primary disturbances characterized by paroxysmal, rapid, deep breathing, likewise with pauses. He attributes both to the functional disturbance of the thyroid gland, which is responsible for the disease, and is inclined to endorse the possibility of combating this morbid secretion of the thyroid with the milk or serum of thyroidectomized animals.

Muenchener Med. Wochenschrift, Munich.

84 (No. 32.) *Significance of Catatonic Phenomena for Prognosis. E. Meyer.—Zur prognostischen Bedeutung der katatonischen Erscheinungen.
85 *Diagnosis of Liver Abscess After Dysentery. Schlayer (Tientsin).—Zur Diagnose des Leberabszesses nach Ruhr.
86 *Zur Kenntnis der Bantischen Krankheit (Banti's disease). Fichtner (Leipsic).
87 *Widal's Reaction in Icterus. F. Köhler.—Die Widalsche Reaktion bei Gelbsucht.
88 *Latest Operative Efforts Directed Against Uterine Cancer. A. Sippel.—Die neueren Operationsbestrebungen gegenüber dem Gebärmutterkrebs.
89 Nochmals die Morphium-Scopolamin-Narkose. L. Grevsen.
90 *Importance of Medical Oversight of Children in Orphan Asylums, etc. F. Siegert (Strasburg).—Die Bedeutung der ärztlichen Ziehkinder-Ueberwachung für die Physiologie, Pathologie und Therapie des Kindes im frühesten Alter.
91 *Zur Kasuistik der subcutanen Nierenquetschungen (contusion of kidney). C. Bechtold.
92 *Progress in Technic of Roentgen Transillumination. B. Wiesner and F. Dessauer (Aschaffenburg).—Ueber einen Fortschritt in der Technik der Roentgendurchleuchtung.
93 *Hypnosis and the Medical Profession. A. Forel.—Die Hypnose vor der Aerztekammer.
94 (No. 33.) *Zur Prophylaxe und Therapie des Puerperal-Fiebers. H. Fehling (Strasburg).
95 Stab and Bullet Wounds of Abdomen. H. Gebele.—Ueber penetrierende Bauch-Stich- und Schuss-Wunden.
96 Ueber Psychosen unter dem Bilde der reinen primären Inkohärenz. L. W. Weber.
97 *Revival of Isolated Heart. A. Velich (Prague).—Kritsche und experimentelle Studien über die Wiederbelebung von tierischen und menschlichen Leichen entnommenen Herzen.
98 Alkoholismus und Bier. G. Keferstein (Göttingen).
99 (No. 34.) *Zur Behandlung der Hematocelen. P. Zweifel (Leipsic).
100 *Adrenalin in Spinal Cocainization. A. Dönitz.—"Kokainisierung des Rückenmarkes" unter Verwendung von Adrenalin.
101 Anwendung von Akoin-Kokain zur Lokal-Anesthesie. W. Krauss (Marburg).
102 Circumscribed Foci of Inflammation in Temporal Bone. C. Biehl.—Streng umschriebene Entzündungsherde im Schlafenbeine.
103 Giant Growth in the Newborn. H. Fuchs.—Ueber Riesenwuchs bei Neugeborenen und über Partus serotinus. (Commenced in No. 33.)
104 Toxin and Antitoxin. P. Ehrlich. (Concluded.)

84. **Importance of Catatonic Symptoms for Prognosis.**—Meyer believes that catatonic phenomena render the prognosis of a psychosis grave, but not necessarily absolutely bad. In his experience with 46 cases in which they were included in the clinical picture one-fifth to one-fourth of the number recovered their health—by the layman's standard of health—for a number of years. There were hereditary influences at work in about 54 per cent., and most pronounced in the cases with the least favorable outcome.

85. **Diagnosis of Liver Abscess After Dysentery.**—Schlayer was frequently able to affirm with almost certainty by the hyperleucocytosis the presence of an abscess in the liver. He says that in 11 cases of acute or subacute abscess the leucocytes ranged from 18,000 to 62,000 the days before the operation, averaging 25,000, with a single exception. The lack of hyperleucocytosis was frequently a valuable sign for exclusion of liver abscess in puzzling cases of typhoid or malaria.

86. **Banti's Disease.**—Fichtner analyzes a case which he had opportunity to observe through several years. A previously healthy young man received a blow in the left stomach region. The pains persisted for weeks, and the spleen became much enlarged. During the following seven years he was debilitated and presented a hypertrophied spleen, severe, rebellious otitis, varying anemia and ascites, with occasional gallstone colic. Both the anemia and ascites retrogressed so much that operative intervention was not advised. The last examination, however, showed 92 per cent. hemoglobin, 4,060,000 reds and 3,458 whites. The spleen had slightly increased in size, but there was no ascites. The case shows that the connection between the spleen tumor and the changes in the blood is not so close as Banti assumes, otherwise the anemia would have been much more intense in comparison with the size of the spleen. The fluctuations in the intensity of the anemia, considered with reference to the constantly progressive increase in the size of the spleen, indicate that the blood changes are not secondary to the spleen affection but must have some other special cause.

87. **Widal's Reaction in Case of Icterus.**—Köhler's researches detract from the reliability of the Widal test as the reaction was obtained in 12 out of 100 non-typhoid cases. It was particularly marked in liver affections with icterus. Bile gives the reaction, also, but comes more under the head of chemical reactions. Catarrhal icterus may modify the blood serum and induce a positive response to the test, especially when the infection is due to the colon bacillus. Puerperal fever, sepsis, coli abscesses, intestinal catarrh and coli metastases are all liable to lead to errors in diagnosis from this cause. Agglutination may occur, therefore, not only with typhoid, but also with liver affections, accompanied by stagnation of bile and the passage of bile into the blood, and also when the organism is under the action of certain chemicals, or of the colon bacillus, and, possibly, of other bacteria.

88. **Operative Treatment of Uterine Cancer.**—Sippel thinks that the development of operative technic has reduced the dangers from abdominal section to such a low point that it now ranks with vaginal intervention. He restricts vaginal hysterectomy to cases in which the cancer is in the corpus, if not too far advanced, and also cases of incipient carcinoma of the portio.

90. **Medical Oversight of Orphan Asylums, Etc.**—Siegert refers to the fact that Strasburg stands at the head of German cities in respect to its care of the children with its numerous vacation colonies, children's hospitals, etc. He describes the workings of the official medical inspection of all children in any way the wards of the community. All orphans and other dependents under 2 years of age must be brought to the dispensary appointed for inspection at intervals of one to eight weeks as directed. The child is examined, weighed and the details recorded in regard to its food, growth, frequency of meals, the influence of the maternal constitution on the child, the prodrome and symptoms of disease, its development, the particulars of teething and the disturbances connected therewith, the development of the static functions and other particulars. These examinations of such large numbers of children, both the sick and the well, at stated periods, and the careful records kept of each case can not fail to throw light on some still disputed questions.

91. **Subcutaneous Injuries of Kidney.**—Bechtold reports a favorable termination in each of the three cases he describes. Hematuria was the prominent symptom. In 2 the traumatism affected both the front and back, and the injury was probably due to hydraulic pressure. One of the patients was 85. The complete transient retention of urine was probably the result of reflex action from the injured kidney on the other one.

92. **Improved Technic of Radioscopy.**—Among the points mentioned are the use of a "giant tube" and of a stand like an ordinary screen, only more solid. A sheet of lead slides vertically up and down in the frame of this screen, with an adjustable diaphragm in the center. A sheet of ground glass

is fitted over the fluorescent screen, and after the former is wet, the outlines of objects seen through the fluorescent screen can be marked on it with pencil. The advantages of the technic described are that all the side radiating rays are eliminated, and only those used that fall directly on the part to be examined. Also that the subject can move to bring the various aspects of the part before the screen, as he is not fastened to it in any way.

93. **Hypnosis and the Medical Profession.**—Forel pleads for instruction in psychology in the medical curriculum, with special reference to the value of a knowledge of hypnosis to the general practitioner. He concludes with the statement that hypnotism and waking suggestion are one and the same thing, and that it is the duty of the medical profession, of science and of the colleges, to study them and enlighten the public in regard to them. How can physicians learn to know the functions of the brain, which has such a preponderant influence on all the functions of the body, when psychology, psycho-physiology and hypnotism are so systematically ignored in general medical instruction. In consequence of the ignorance in this domain, many morbid phenomena in stomach, intestines, uterus and elsewhere are erroneously diagnosed and locally treated when the actual auto-suggested cause lies in the brain mechanism, and can be removed only by acting on this mechanism.

94. **Prophylaxis and Treatment of Puerperal Fever.**—Fehling found that the difference in morbidity was only slightly in favor of the use of gloves, 7.1 per cent. of 197 cases with, and 9.8 per cent. of 224 women examined without gloves. His assistant, Schuhmacher, has published statistics of 500 examinations of hands which showed that streptococci were never present on the nails after the disinfection in the clinic. Palmer has recently reported that an interval of eight days is not enough to destroy streptococci on the hands of obstetric nurses. For these and other reasons, including the absence of injury of the parts from the nails, Fehling advocates and uses rubber gloves in making examinations, and requires all his aids to use them. He always carries a couple of pairs of rubber gloves around with him and uses them where there is the least suspicion of infecting his hands. This keeps them comparatively clean, and the Fürbringer method of disinfecting will complete the sterilization. Since following and enforcing this plan he had only 1 case of severe infection and 8.47 per cent. morbidity in 802 cases of childbirth in 1902, while in 1901, before the glove régime was adopted, there were 5 severe cases and morbidity of 11 per cent. in 802. He thinks that operative procedures offer little prospect in puerperal sepsis, and his experience was negative with inunctions of colloid silver salt, but intravenous injections of the colloid silver were certainly effective to a certain extent. Not all the patients thus treated recovered, but the temperature and pulse were favorably influenced and likewise the general condition, and he thinks this treatment deserves serious consideration. He injected 10 to 20 c.c. of a 2 per cent. solution into a vein in the elbow. All were subjectively benefited. If the severe symptoms recurred he repeated the injection every day, sometimes for eight or ten days. But the main reliance will always be on prophylaxis, he adds, rubber gloves for every kind of vaginal or rectal examination and clean hands for operative interventions.

97. **Resuscitation of Suspended Heart Action.**—Velich describes a method suggested by Professor A. Spina of Prague which offers a prospect of resuscitating persons after sudden death from some temporary cause. He reviews the history of attempts to revive the suspended heart action in animals and man, and notes many interesting points published in the results of the researches of various investigators. Kuliabko's resuscitation of animal hearts and of the isolated heart of a three-months' infant, twenty hours after death, has already been mentioned in these columns, March 21, 1903, page 813. Velich has repeated these experiments on the hearts of animals, and his experience confirms that published by others. He found that the heart taken from a young dog and buried in snow on the outer window sill for eighteen hours could be made to resume its contractions by forcing Locke s solution at 95 F. through it. Another heart was placed in physiologic salt solution, and the fluid allowed to freeze over. The next morning the dish was brought into a warm room, and after the ice had melted, twenty-four hours after the heart had been removed from the living animal, it began to pulsate in a few minutes after the warm Locke solution had been flowing through it. The auricular appendages first gave signs of pulsation, then both auricles and then the ventricles showed feeble vibrations. These experiments show that there is little difference between the heart of cold-blooded and of warm-blooded animals in respect to the resistance to cold. They also indicate that the main factor in restoring heart action is the filling of the vessels with fluid. Massage of the exposed heart is only liable to prove successful if the heart can be filled with blood, by compression of the abdominal vessels or by injection into an artery of physiologic salt solution at 95 to 104 F. Professor Spina has accomplished this in dogs, injecting 200 c.c., directing the stream toward the heart. It forces the blood along before it, and when the semilunar valves are reached, the stream closes them. This closes the entrance into the left ventricle and drives the blood into the coronary arteries, through which it circulates exactly as in the experiments with resuscitation of the isolated heart by Langendorff's method. In this manner he was able to restore the heart action in a large number of animals, even in those whose cerebrospinal system had been destroyed and those that had succumbed to the action of alcohol or other poisons. In one experiment a curarized dog was injected with nicotin, and after the subsidence of the phenomena induced by this poison, the artificial respiration was suspended. The heart ceased to beat in a few minutes. The thorax was opened and the heart seen to be absolutely still. Ten minutes later artificial respiration was resumed, and 200 c.c. of physiologic salt solution containing 1 per cent. grape sugar was injected into the external iliac artery, directed toward the heart. Even while the injection was being made, the heart began to pulsate, and soon the blood was circulating as in a normal dog. The results of these experiments indicate that Spina's method is applicable to man in case of sudden death from any cause in which it is possible that the spark of life can be fanned into a blaze again by injecting the blood vessels of the heart in this manner, and thus tiding it over the critical moment of some temporary injurious influence.

99. **Treatment of Hematocele.**—Zweifel has found that the women who had been treated expectantly recovered after absorption of the blood with restoration of almost complete integrity of the parts, most surprising when the pathologic conditions at the time are considered as noted in other women during operations. He operated on 46.5 per cent. of his 211 cases observed between 1890 and 1899. There was no mortality. The unexpectedly favorable ultimate results found in the unoperated cases, he remarks, will render him more conservative in regard to operating in the future. Each patient is now informed that she will recover eventually without an operation, but that the latter will relieve her of pain and much shorten the convalescence. It is left for her to decide in most cases. He adds that if some means could be found which would hasten absorption, then there would no longer be any question of operating. Hydrotherapy and repose are about our only reliance, although he always uses iodin.

100. **Adrenalin as a Preliminary to Spinal Cocainization.**—Bier, the originator, or rather the rediscoverer, of spinal anesthesia, has always been most earnest in protesting against the assumption that the technic had been perfected past the danger point. He used to remark that the sanguine French and the daring Americans maintain that this has been realized, but he did not agree with them. He has been constantly studying the subject since his first communication, and the announcement is now made from his clinic that an important step toward this ideal has been made in recent tests of adrenalin injected previous to the cocain. He found that the toxicity of cocain could be reduced by one-third by the addition of three drops of adrenalin to the fatal dose of cocain for

cats (.018 gm.), while injection of the adrenalin six minutes before the cocain was injected, reduced the toxicity of the latter to one-fifth. Dönitz states that he injected three times this quantity of adrenalin subcutaneously into his own arm to find if it could be tolerated. He presented symptoms of a slight general intoxication for a few minutes but all had vanished in thirty to forty-five minutes, except that the acceleration of the pulse persisted a little longer. Braun has already announced that adrenalin enhances the anesthetic action of cocain. By combining them it is possible to complete the anesthesia with much smaller quantities of the cocain. Spinal cocainization of a number of patients, after previous injection of .5 c.c. of the 1 to 1000 solution of adrenalin, induced complete anesthesia with only .0075 to .015 gm. of the cocain. The anesthesia was fine in all, allowing major operations, and there were no by-effects in the majority, and when they occurred they were insignificant.

Wiener Klin. Rundschau.

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105 (XVII. No. 23.) *Technic of the Spiral Intestinal Sound. F. Kuhn (Cassel).—Die methodische Ueberwindung der Flexura sigmoidea.
106 Clinical Importance of Cervical Ribs. A. Weissenstein.—Zur klin. Bedeutung der Halsrippen. (Commenced in No. 21.)
107 (No. 24.) Psychologic Study of the Appetite. A. Meisl.—Wesen des Appetits.
108 (No. 26.) *Course of Peptic Ulcer in Esophagus. C. Hödlmoser.—Beitrag zum Verlauf des peptischen Speiseröhrengeschwüres. (Commenced in No. 25.)
109 *Beitrag zur paroxysmalen Tachykardie. H. Frick (Nauheim).
110 (No. 27.) Certain Acquired Forms of Idiocy. E. Stransky (Vienna).—Zur Kenntnis gewisser erworbener Blödsinnsformen (speziell der Dementia precox).
111 Dilatation of Esophagus. H. Starck.—Ueber Aetiologie diffuser Speiseröhren-Erweiterungen. (Commenced in No. 26.)
112 (No. 28.) Behavior of Nails in General Disease. J. Heller. Das Verhalten der Nägel bei Krankheiten des Gesamtorganismus.
113 *Prophylaxis of Syphilis. F. Weitlaner.—Zur Verhütung einer bestimmten Art extragenitaler Syphilis-Einschleppung.

105. Flexible **Intestinal Sound.**—Experience is confirming the great value of Kuhn's flexible spiral sounds. He here expatiates on the advantages and proper method of using his intestinal sound. It is a stiff or a soft sound at will, and it is impossible to kink it. A thin-walled rubber tube of Nélaton rubber is the outer envelope of the tube proper, which consists of a metal ribbon of copper bronze wound in a spiral, with a steel guide inside.

108. Peptic **Ulcer in Esophagus.**—Hödlmoser analyzes the various theories that have been advanced for the etiology of peptic ulcer of the esophagus, and describes a case personally observed in which a simultaneous peptic ulcer in the duodenum confirmed the diagnosis. The patient was a day laborer, 35 years old, who had suffered for several years from gastric disturbances, accompanied latterly by pain in the lower sternal region and difficulty in swallowing. The pains in the stomach continued with varying intensity and there was occasional vomiting of "coffee grounds." Lavage of the stomach showed extreme stagnation and dilatation of the organ. Blood finally began to appear in the vomit and death followed in progressive anemia. Kraus has collected 20 similar cases, and notes that in the majority there were no symptoms to suggest the presence of an ulcer in the esophagus, the symptoms being referred to the stomach. Fränkel has reported 2 cases of stenosis of the esophagus consecutive to a peptic ulcer, and calls attention to the length of time that elapses after the first symptoms of disturbance before there is any indication of stenosis. The triad, vomiting of blood, pains in the lower sternal region and difficulty in swallowing, should certainly suggest this affection, especially when associated with indications of stenosis.

109. **Paroxysmal Tachycardia.**—Frick presents arguments to establish the central origin of paroxysmal tachycardia, and mentions among them that pressure on the vagus, either by deep breathing, by Valsalva's test or otherwise, will arrest the attack. He explains this phenomenon by assuming that the tachycardia is the result of some paralyzing influence on the extracardiac heart center of the heart-retarding fibers in the medulla oblongata, while, at the same time, the heart-accelerating fibers are stimulated to extra exertion. Pressure on the right vagus sends a stimulus through its centripetal fibers to the center and this proves sufficient to arouse it from its lethargy and enable it to send through the left vagus its heart-retarding impulse. This impulse continues after the pressure on the vagus is removed, as the center once aroused does not relapse into its lethargy. Deep breathing or the Valsalva test has the same effect as pressure on the vagus. It is not to be wondered at that these heart centers in the brain become functionally deranged in case of morbid irritation from a diseased heart, and that this functional derangement gradually becomes rectified as the condition of the heart improves. In 2 cases of paroxysmal tachycardia under the writer's observation he found it possible to abort or arrest the attacks by compression of the right vagus, which the subject can learn to apply himself. One patient was a consumptive, and compression of the vagus promptly arrested the attack after it had lasted an hour. The pulse dropped from 198 to 72 at once, and then rose to 110, the subject's normal rate.

113. **Prophylaxis of Syphilis.**—Weitlaner describes two instances in his experience in which entire families were infected with extragenital syphilis by a child taken in to board. In a third case the manager of a "baby farm" was infected by one of the infants in her charge, and is liable in turn to infect all the other inmates of her establishment. This extragenital infection usually manifests itself first in the mouth or throat, as it occurs by way of spoons or dishes used in common. The habit of tasting the food to test the temperature before giving it to the infant is undoubtedly responsible in many cases. In conclusion he suggests the necessity for continued oversight over illegitimate children born in maternities.

Wiener Klin. Wochenschrift, Vienna.

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114 (No. 28, Chrobak Number.) Die Aetiologie der Inversio uteri. F. Schauta.
115 Origin of Sexual Characteristics. J. Halban.—Die Entstehung der Geschlechtscharaktere.
116 *Zur Frage der Plazentar-Syphilis. F. Hitschmann and R. Volk.
117 *Ueber die schnelle Dilatation der Cervix nach Bossi. R. Cristofoletti.
118 *Hot-Air Treatment of Gynecologic Affections. O. Burger.—Zur Heissluft Behandlung gyn. Erkrankungen.
119 *Zur diagnostischen Verwertung der Leukocytose in der Gynaekologie. E. Waldstein and O. O. Fellner.
120 (No. 29.) *Extramedian Symphyseotomy with Permanant Enlargement of Pelvis. T. H. Van de Velde (Haarlem).—Hebotomie mit bleibender Erweiterung des Beckens.
121 *Influence of Castration on Blood of Female Animals. R. Breuer and v. Seiller.—Einfluss der Kastration auf den Blutbefund weiblicher Tiere.
122 Constant Occurrence of Hitherto Unknown Cellular-Formed Elements in Villi of Human Placenta and Embryotrophe. J. Hofbauer.—Ueber das konstante Vorkommen bisher unbekannter zelliger Formelemente in der Chorionzotte der menschlichen Plazenta und über Embryotrophe.
123 Ueber ein eigenartiges serodiagnostisches Phenomenon ("amorphe Agglutination") in "Friedländer" Reconvaleszenten-Serum. R. Schmidt (Neusser's clinic, Vienna).
124 *Ueber Enuresis und ihre Behandlung mittels epiduraler Injektionen. G. Kapsammer. (Commenced in No. 29.)
125 (No. 31.) Exclusion of Thymus. K. Basch (Prague).—Ueber Ausschaltung der Thymusdruse.
126 Zur Aetiologie der Seekrankheit (of seasickness). E. Pflanz (Marienbad).
127 Ehrlich's Diazo-Reaktion als differentiell-diagnostisches Hilfsmittel. O. Pelzl.
128 Zur Antitoxin-Behandlung des Tetanus. A. Holub.
129 (No. 32.) Ueber Pneumokokken-Agglutination mit dem Blut-Serum pneumoniekranker Kinder. L. Jehle.
130 Ueber Pachymeningitis externa. J. Hertle.
131 2 operativ geheilte Fälle von Invaginatio ileocoecalis bei Erwachsenen. J. Elgart.
132 Obituary of Karl Gussenbauer. v. Eiselsberg. (Commenced in No. 31.)

116. **The Placenta in Syphilis.**—All the articles in this number of the *Wochenschrift* are dedicated to Rudolf Chrobak on the occasion of his sixtieth birthday. Hitschmann and Volk have carefully examined 22 placentæ from women known to be syphilitic. They also review the literature on the subject. They were unable to discover any alterations in the placenta specifically characteristic of syphilis.

117. **Rapid Bossi Dilatation of Cervix.**—Experiences with 5 patients at Schauta's clinic failed to show any advantage from the use of the Bossi dilatator. On the contrary, the time required for the necessary anesthesia is a great drawback. The dilatation does not resemble the physiologic process and lacerations are liable to occur.

118. **Hot-Air Treatment of Gynecologic Affections.**—The efficacy of dry heat in reducing pain and promoting absorption has been established to Burger's satisfaction from his experience with a number of cases treated by electric baths or application of superheated air. In 8 out of 12 cases of chronic perimetritis of six months' to nine years' standing the patients were soon relieved of the pains in the sacral and lumbar region and felt better generally. In 5 of these improved cases the palpation findings were altered by the treatment. The improvement was rapid and pronounced in 13 out of 14 cases of parametritis. The patients were all remarkably relieved and in most cases the objective improvement was also evident. An important point in this class of cases is that the hot-air treatment causes the retrogression of the parametritic tumors and thus allows discovery of lesions higher up, in case they exist. The subsidence of pain is probably the result of the active hyperemia. In several cases of inflammatory processes in the adnexa the inflammatory edema retrogressed, and a case of actinomycosis was favorably influenced, as also 3 cases of abdominal fistula persisting after a laparotomy. Under the influence of the hot air applied to the fistula, which was first dried and dusted with iodoform to prevent scalding from steam, the wound began to granulate normally and rapidly healed. The menses were hastened by the action of the hot air in some cases, suggesting its application in amenorrhea.

119. **Leucocyte Count in Gynecologic Affections.**—Waldstein and Fellner tabulate the findings and blood count in 29 cases of various gynecologic affections. Comparison of the details shows that pus-containing tumors of the adnexa in the acute stage are accompanied by leucocytosis. It persists longer than the fever, but subsides in time, notwithstanding the continuance of the pus pocket. Tumors in the adnexa not containing pus are not accompanied by leucocytosis. Thirty-five cases of other gynecologic affections were examined from this point of view and a number with internal hemorrhage, etc. The results showed that much loss of blood from myoma or extrauterine pregnancy may induce a hyperleucocytosis, the more pronounced the greater the hemorrhage. If the organism has time to produce more blood to take the place of what is lost, as in case of small, repeated hemorrhages from a myoma, the leucocytosis may be moderate or imperceptible. On the other hand, in case of much loss of blood, as from rupture of an extrauterine pregnancy, the leucocytosis may be as intense as in case of pus formation. In one case it reached 24,000, a few hours after the operation it was 23,000, and as the patient regained strength it fell to 16,000. In 2 cases of a four weeks' hematocele, the leucocytes numbered 12,000. In 2 other cases examined four to six weeks after tubal abortion the blood count was normal.

120. **Extramedian Symphysiotomy.**—Van de Velde has coined the term "hebotomy" for this operation, which he remarks was first suggested by Champion eighty years ago, but has only become practicable since Gigli invented the wire saw. It has been performed 12 times to April, 1903. All the mothers recovered with no disturbances and their gait is as perfect as before. All the children were delivered alive. The great advantages of this intervention are that the wound can be protected from contact with the urine and vaginal secretions, and that the sawing of the healthy pubis is followed by a healthy callus formation, which holds the sawed edges apart and thus permanently enlarges the deformed pelvis. In one of his cases he purposely left a gap between the sawn edges the width of a finger. The woman was up in three weeks, had no pain and resumed her life as a working woman in six weeks. A radiogram four months later showed that the pelvis was permanently enlarged, the urethra, clitoris and symphysis permanently asymmetrically displaced to one side, with a difference of 2 cm. from the spin. ant. sup. to the symphysis on the two sides. The pelvis is as solid as ever, and in this case, as with his previously operated patients, the excess of callus is gradually absorbed so that in time there is no trace of the intervention. In case a second hebotomy is required it might be made on the other side, and thus the pelvis be permanently enlarged by 3 to 4 cm., which is the maximum that should be striven for.

121. **Influence of Castration on Blood of Female Animals.**—For three years Breuer has been studying on dogs the effect of removal of the ovaries on the composition of the blood. He found that castration has an unmistakable effect on regeneration of the blood in younger animals, from seven to ten months old. Older ones were not affected. The ovaries have, therefore, an undoubted influence on the composition of the blood. The disturbances produced by their extirpation bore no resemblance to human chlorosis. He believes that this research is an important support of the genital origin of chlorosis.

124. **Epidural Injections in Treatment of Enuresis.**—Kapsammer reports the details of 37 cases of enuresis treated by epidural injections according to Cathelin's method, recently described in THE JOURNAL, page 527. He has made 300 epidural injections, and has never seen a reaction except twice; once the patient vomited once afterward, probably because the injection had been made too rapidly and was somewhat larger than usual. In the other case the patient vomited twice the day after the injection and the point of the injection was slightly painful. He disapproves of Cathelin's advocacy of epidural injections as a "universal remedy," but thinks that for enuresis the results far surpass all others. He recommends two or three injections at brief intervals, even when the cure seemed to be complete after the first. He proclaims, however, that a saline solution has exactly the same effect as the cocain and may be used in its place. A remarkable feature of this treatment, already noted by others, is that an excessive desire to urinate is reduced and deficient desire stimulated. His experiences have confirmed those of all the others who have tested the method as to its complete harmlessness. The 25 cases completely cured which he describes in detail include 19 with enuresis nocturna and 6 with both nocturna and diurna. The cure dates from fourteen months in 1, ten months in 1, more than six months in 2 and five months in 6; 8 patients were cured by a single injection. Six had been treated by a number of other methods without result. Some of the cases required several injections, one as many as 13 and one 12. He thinks that these latter cases could have been cured quicker if he had injected larger amounts at shorter intervals. Fourteen of the 25 were treated with cocain solution and the others with saline. One was an infant less than 2 years old, consequently the effect can not be ascribed to suggestion; another was a man of 25 with pollakiuria diurna and enuresis nocturna, both cured by 2 cocain injections. Another was a lad of 16 cured by 4 cocain injections of enuresis, both night and day, since early childhood. In a second series of 6 cases the patients left before the final result could be ascertained, and although cured when last seen, are not included in the statistics, as also 6 others still under treatment.

Roussky Vratch, St. Petersburg.

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133 (II, No. 2.) Problems of the Day in Pharmacology and Materialism. N. P. Kravkoff.—Sovremenniya problemy pharm. i materialism.

134 *Technic of Laparotomy. V. S. Gruzdeff.—K technikye laparocoeliotomia.

135 * Stomach Digestion in Icterus. S. S. Zimnitzky.—K voprosu o zheldotchnom pitshtchevarenii pri zheltukhakh.

136 Tannoform in Intertrigo in Children. S. E. Ostrovsky.—Tannoform pri perepryelosti u maletchkikh dyetei.

137 *Ligature of Common Carotid in Firearm Wound of Lower Jaw Region. B. S. Miklashevsky.—Perevyazka obshtchei sonnoi arterie po povodu, etc.

138 (No. 3.) *Treatment of Surgical Tuberculosis. A. Bobroff.—O sredstvakh borby s chirurg. bugorchatkoi.

139 *Inflation of Stomach to Determine Its Outlines. A. K. Sievert.—K voprosu ob opredyelenii granitz zheludka razduvaniem.

140 Insoluble Albumin from Albumose During Gastric Digestion. V. V. Zavyaloff.—O rastvorimoi raznovidnosti plastelina.

141 *History of Local Application of Steam in Gynecology and Surgery. M. P. Kozlenko.—Sovremennoe sostoyanie voprosa o primyenenii para v gyn. and chir.

142 *Treatment of Fecal Fistulas. I. I. Grekoff.—O lyetchenii kalovykh svishtchei.

143 Portable Electric Continued Current Apparatus. N. P. Domashneff.—O novom portativnom pribor dlya produzheuelnago dyestviya postoyannym elect. tokom.

144 (No. 4.) *Thermotaxis of White Corpuscles. M. P. Mendelssohn.—O termotaksii byelykh krovnykh tyeletz.

145 (No. 5.) Instruction in Anatomy. V. N. Tonkoff.—O prepodavanie anatom. nauk. (Commenced in No. 4.)

146 *Psychologic Basis for Development of Hypnosis. T. E. Rybakoff.—Psych. usloviya razvitiya hypnosa. (Commenced in No. 4.)

147 Eye Affections Caused by Flies. A. V. Lotin.—K voprosu o zabolyevaniyakh glaz vyzyvaemykh litchinkami mukhi Wohlfahrt'a.

134. Technic of **Laparotomy.**—Gruzdeff has long advocated copious flushing of the abdominal cavity with saline solution before closing it after a laparotomy. In 28 cases in which the abdomen was treated by the dry method there were 3 deaths, while only one patient died in the 72 cases in which he followed his method of irrigation, and this fatality was due to other causes. He prefers Locke's solution for the purpose as more nearly approximating the composition of the blood plasm, and pours it into the abdomen three or four times, swabbing out the cavity each time with gauze sponges, and finally leaving a large amount in the abdomen after it is sutured. He thinks that by this means the abdominal cavity is not only cleaned, but the germs that may have found their way in during the operation are washed out and the phagocytes are stimulated to more energetic action. A still further advantage is that the pressure in the abdomen is maintained by the fluid left behind, and it does not tend to collapse after the removal of large tumors. His series includes a variety of indications, as he relates in detail. The pregnancy was not interfered with in one patient on whom a laparotomy was performed on account of peritonitis.

135. Stomach **Digestion in Icterus.**—Simnitzky found that retention of bile from any cause had a marked influence on the digestive processes in the stomach, always inducing hypersecretion until the stomach became exhausted by the chronic course of the affection, after which hyposecretion was the rule. His clinical experience was confirmed by experiments on animals.

137. Ligation of **Carotid for Traumatic Hemorrhage.**—A bullet wound in the neck suppurated and recurring hemorrhages compelled Miklashevsky to ligate the left common carotid artery. This seemed to be well tolerated at first, but after a month hemiplegia developed on the right side, evidently from some focus of softening in the region whose nutrition had been disturbed by the ligature, after anastomosis had been established. The hemiplegia gradually subsided. He has found 914 cases on record in which the common carotid had been ligated, in 337 for the removal of a tumor, in 75 on account of aneurism, in 335 for hemorrhage, and in 54 for neuralgia. About 39.8 per cent. of the patients succumbed to the progress of their affection. The mortality of ligation *per se* has been computed by Hueter at 5 per cent.

138. **Seacoast and Sun Baths in Surgical Tuberculosis.**—Bobroff reports most gratifying results from the sanatorium for children which was established in the Crimea mainly through his efforts. The sea air in this balmy climate, sun and sea bathing are all important factors in the treatment of localized tuberculosis. He lays great stress on direct exposure of the site of the lesion to the sunshine, protected merely by a sheet.

139. **Outlining the Stomach by Inflation.**—Sievert examined 25 subjects, some healthy and others with gastric lesions, to determine the value of this method of diagnosis. He found that the stomach does not distend equally in all directions when gas is generated in it with soda and tartaric acid. The distension seems to be greatest towards the right side. When a moderate amount of gas is formed the findings coincide with those obtained by percussion, auscultation, etc., but if large amounts are generated then the organ is abnormally distended and the findings are not those of the actual condition. This procedure, however, has the advantage that it enables the outlines of the stomach to be determined by the eye.

141. History of **Atmocausis.**—Professor Sneguireff was the first to apply steam to the local treatment of gynecologic affections. During the fifteen years since a long array of communications on the subject have been published, which are reviewed in the present article. Atmocausis, or vaporization as it is called, has proved of signal value in arresting hemorrhage during operations on the liver, in climacteric uterine affections, for cauterizing the uterine mucosa, etc. Pincus and Dührssen have been particularly successful with it in various gynecologic affections; the former advocates it as an ideal means of obliterating the uterine cavity.

142. **Treatment of Fecal Fistula.**—Grekoff describes a case in which exclusion of a portion of the intestine with persisting fecal fistula into the sac was followed later by hernia of the excluded portion, requiring its resection. Two normal pregnancies had occurred in the interim. He recommends resection as an indispensable supplement to the primary intervention, praising the Maisonneuve method of enteroanastomosis as the simplest and least aggressive.

144. **Thermotaxis of the White Corpuscles.**—Mendelssohn proclaims that he has established that the white corpuscles are attracted by heat. This thermotaxis is most pronounced at a temperature of 36-39 C. (97 to 102 F.), but is still marked at 25 to 35 or even 20 to 25 C. In inflammations, therefore, the leucocytes are attracted by thermotaxis as well as by chemotaxis, he believes. Temperatures higher than 102 F. did not seem to attract them.

146. **Psychologic Conditions for Hypnosis.**—Rybakoff ascribes to emotion the chief rôle in the production of the hypnotic sleep. This assumption is sustained by the changes in the heart action and respiration, the subjective sensations during the hypnosis and the fatigue afterward. This condition of emotion enables the subject to respond to the will of the hypnotizer and is the most important requisite for a successful hypnosis. Other causes contribute only as they induce this emotion.

New Patents.

Patents of interest to physicians, August 18-25:

736356. Truss. Mott B. Brooks, Rochester, N. Y.
736744. Surgical ecraseur. Louis R. Kratzmueller, Chicago.
736529. Formaldehyd compound. Roberto Lepetit, Susa, Italy.
737051. Hernial truss. Joel U. Adams, Cincinnati.
737087. Retinoscope. Henry L. De Zeng, Philadelphia.
737365. Invalid's table. George E. Dewey, Grand Rapids, Mich.
737413. Formaldehyd generator. Robert W. Johnson, New Brunswick, N. J.
737258. Catamenial sack. Lee H. Mallalieu and M. Coke, St. Louis.
737008. Lung and voice developer. Peter E. Nichol, Toronto, Canada.
737465. Massage machine. Charles Pfanschmidt and J. Siefert, Chicago.
737473. Mechanism for relief of headache and insomnia. James R. Porter, Richmond, Ill.
737155. Hernial truss. John N. Schiffer, Turtle Creek, Pa.
737526. Surgical bandage. William Sutcliffe, Paterson, N. J.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

U. S. DEPARTMENT OF AGRICULTURE. Index-Catalogue of Medical and Veterinary Zoology. Part IV. (Authors D to Dziembowski.) By Ch. Wardell Stiles, Ph.D., Consulting Zoologist of Bureau of Animal Industry, and Albert Hassall, M.R.C.V.S., Veterinary Inspector, Bureau of Animal Industry. Paper. Washington: Government Printing Office. 1903.

PORTFOLIO OF DERMOCHROMES. By Professor Jacobi of Freiburg in Breisgau. English Adaptation of Text by J. J. Pringle, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. Part I. Half leather. Price, $15.00 for Complete Work. London and New York: Rebman, Ltd. 1903.

U. S. DEPARTMENT OF AGRICULTURE. Bureau of Animal Industry —Bulletin No. 46. The Milk Supply of Two Hundred Cities and Towns. By Henry E. Alvord, C.E., Chief of Dairy Division, and R. A. Pearson, M.S., Assistant Chief of Dairy Division. Paper. Pp. 210. Washington: Government Printing Office. 1903.

LUCOTHERAPY OR THE THERAPEUTIC ACTION OF LIGHT. By Corydon Eugene Rogers, M.D., Seattle, Wash., U. S. A. A Practical Treatise on the Principal Methods of Employing Light Rays in the Treatment of all Germ Diseases. Cloth. Price, $2.00. Pp. 155. Seattle, Wash.: The Metropolitan Press, Inc.

CONSUMPTION A CURABLE AND PREVENTABLE DISEASE. What a Layman Should Know About It. By Lawrence F. Flick, M.D., Founder of the Pennsylvania Society for the Prevention of Tuberculosis. Cloth. Pp. 295. Price, $1.00. Philadelphia: David McKay. 1903.

HIGH-FREQUENCY CURRENTS IN THE TREATMENT OF SOME DISEASES. By Chisholm Williams, F.R.C.S. Edin., M.R.C.S. Eng. Cloth. Pp. 222. Price, $2.75, net. London and New York: Rebman, Ltd. 1903.

FOOT AND MOUTH DISEASE. By D. E. Salmon, D.V.M., Chief of Bureau of Animal Industry. Paper. Reprint from Nineteenth Annual Report of the Bureau of Animal Industry. 1902.

REPORT OF THE TRUSTEES OF BELLEVUE AND ALLIED HOSPITALS for Quarter Ending March 31, 1903. Paper. Pp. 22. New York: Mail and Express Company. 1903.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, Sept. 5, 1903:

Birmingham, Henry P., major-surgeon, is detailed for duty as chief surgeon on the staff of Major-General J. C. Bates during the Army maneuvers to be held in the vicinity of West Point, Ky., and will report by letter to that officer for instructions. Major Birmingham will proceed at such time and to such place as may be designated by Major-General Bates.

Bising, A. G., is granted leave for one month.

Cable, G. L., contract surgeon, is relieved from further duty at Fort Clark, and will proceed to his home for annulment of contract.

Harmer, J. R., contract surgeon, is granted leave for two months.

Ireland, M. W., major-surgeon, will report to the commanding officer Third Battalion Engineers for duty with the headquarters, staff and Companies L and M of that battalion while en route to San Francisco, and, on the completion of this duty, will return to his station in Washington, D. C.

Sabin, W. E., contract surgeon, is assigned to temporary duty at Vancouver barracks.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Sept. 5, 1903:

Asst.-Surgeon O. Kohlase, Sept. 10, 1903, detached from duty at the Naval Hospital, Mare Island, Cal., and ordered to duty at the Naval Museum of Hygiene and Medicine, Oct. 1, 1903.

Asst.-Surgeon R. K. McClanahan, en route home from Asiatic Station, via the *Solace*.

Asst.-Surgeon C. M. Oman, detached from the *Solace* and ordered to the *Monadnock*.

Asst.-Surgeon H. A. Dunn, detached from the Naval Station, Cavite, P. I., and ordered to the *Solace*.

Asst.-Surgeon R. A. Bachman, ordered to the Naval Station, Cavite, P. I.

Asst.-Surgeon F. M. Munson, ordered to the *Frolic*.

Asst.-Surgeon H. F. Strine, ordered to the *Isle de Cuba*.

Asst.-Surgeon J. L. Neilson, ordered to the *Iris*.

Marine-Hospital Changes.

Official list of the changes of stations and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the fourteen days ended Sept. 3, 1903:

Surgeon J. A. Gassaway, Department letter granting him leave of absence for two months from August 10, amended to read two months from August 13..

Surgeon G. W. Stoner, granted seven days' leave of absence from August 29, under paragraph 189 of the Regulations.

Surgeon H. R. Carter, Bureau letter granting him leave of absence for thirty days from August 4, amended so as to read twenty-four days from August 5.

Surgeon G. M. Magruder, granted leave of absence, on account of sickness, for thirty days from Sept. 7, 1903, or so much thereof as may be necessary.

Surgeon R. M. Woodward, granted two days' leave of absence from Aug. 20, 1903, under paragraph 189 of the Regulations.

P. A. Surgeon M. J. Rosenau, detailed as chairman of Working Party No. 2, Yellow Fever Institute, and directed to proceed to Vera Cruz, Mexico, for special temporary duty in connection therewith.

P. A. Surgeon M. J. White, relieved from duty at Portland, Ore., and directed to proceed to Honolulu, T. H., and report to medical officer in command for duty, relieving Asst.-Surgeon J. M. Holt. Granted leave of absence for three days from September 5.

P. A. Surgeon L. D. Fricks, to proceed to Baltimore and report to Surgeon H. R. Carter for temporary duty in connection with the inspection of immigrants at that port.

P. A. Surgeon H. B. Parker, relieved from temporary duty at Washington, D. C., and, as chairman of Working Party No. 2, Yellow Fever Institute, and directed to report to P. A. Surgeon M. J. Rosenau, and to proceed to Vera Cruz, Mexico, for duty under his direction.

Asst.-Surgeon H. A. Stansfield, on being relieved from duty at Mariveles, P. I., to proceed to San Francisco, and report arrival by telegraph.

Asst.-Surgeon J. M. Holt, on being relieved from duty at Honolulu, T. H., to proceed to Manila, P. I., and report to P. A. Surgeon V. G. Heiser for duty.

Asst.-Surgeon C. W. Vogel, relieved from duty at San Francisco, and directed to proceed to Manila, P. I., and report to P. A. Surgeon V. G. Heiser for duty.

Asst.-Surgeon C. W. Wille, on completion of duties at Baltimore, to proceed to Philadelphia and assume temporary command of service at that port during absence, on leave, of Surgeon F. Irwin.

Asst.-Surgeon J. W. Amesse, on being relieved from duty at Jolo, P. I., to proceed to San Francisco and report arrival by telegraph.

Asst.-Surgeon M. W. Glover, granted leave of absence for one month from September 8.

Asst.-Surgeon Edward Francis, relieved as temporary chairman of Working Party No. 2, Yellow Fever Institute, and directed to report to P. A. Surgeon M. J. Rosenau as member of Working Party No. 2 on his arrival at Vera Cruz, Mexico.

Asst.-Surgeon R. H. Creel, relieved from duty at Immigration Depot, New York, and directed to proceed to Manila, P. I., and report to P. A. Surgeon V. G. Heiser for duty.

A. A. Surgeon L. C. Bean, granted leave of absence for two days from September 4.

A. A. Surgeon D. M. Echemendia, granted leave of absence for seven days from Aug. 20, 1903, on account of sickness, under paragraph 210 of the Regulations.

A. A. Surgeon L. P. Gibson, granted leave of absence for six days.

A. A. Surgeon S. B. Hunter, granted leave of absence for six days.

A. A. Surgeon W. A. Kimmet, granted leave of absence for two weeks from August 25.

A. A. Surgeon W. J. O'Reilly, granted leave of absence for three days from September 8.

A. A. Surgeon R. H. Peters, granted leave of absence for twenty days from August 4.

Pharmacist W. F. Macdowell, granted leave of absence for thirty days from September 14.

Pharmacist W. L. Stearns, granted leave of absence for thirty days from September 8.

Pharmacist G. A. Morris, to report to chairman of board of examiners at Fort Stanton, N. M., Sept. 12, 1903, for examination to determine his fitness for promotion to the grade of pharmacist of the second class.

Pharmacist F. Siedenburg, granted leave of absence for thirty days from September 5.

BOARDS CONVENED.

Board convened at Fort Stanton, N. M., Sept. 12, 1903, for the examination of Pharmacist G. A. Morris, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Surgeon P. M. Carrington, chairman; Asst.-Surgeon J. W. Trask, recorder.

Board to meet at Washington, D. C., on call of the chairman, to consider certain matters relative to uniform regulations of the Service. Detail for the board: Assistant Surgeon-General A. H. Glennan, chairman; Assistant Surgeon-General G. T. Vaughan, Assistant Surgeon-General H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Sept. 5, 1903:

SMALLPOX—UNITED STATES.

California: Sacramento, Aug. 6-23, 2 cases; San Francisco, Aug. 16-23, 1 case.
Colorado: Denver, July 25-Aug. 15, 6 cases.
Illinois: Chicago, Aug. 22-29, 4 cases, 2 deaths.
Indiana: South Bend, Aug. 22-29, 1 case.
Massachusetts: Fall River, Aug. 22-29, 1 case.
Michigan: Marquette, Aug. 22-29, 1 case; Port Huron, Aug. 22-29, 1 case.
Mississippi: Natchez, Aug. 22-29, 1 case.
New Jersey: Camden, Aug. 22-29, 1 case.
Ohio: Dayton, Aug. 22-29, 3 cases.
Pennsylvania: Erie, Aug. 15-22, 1 case; Pittsburg, Aug. 23-30, 95 cases, 13 deaths, 1 case imported.
Texas: San Antonio, July 1-31, 14 cases.
Utah: Salt Lake City, Aug. 15-22, 1 case, imported from Idaho.
Virginia: Pocahontas, Aug. 22-29, 1 case.
Wisconsin: Milwaukee, Aug. 22-29, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, July 11-18, 1 case, 1 death.

SMALLPOX—FOREIGN.

Belgium: Brussels, Aug. 8-15, 3 deaths.
China: Shanghai, July 11-18, 1 death.
Colombia: Barranquilla, Aug. 8-16, 3 deaths.
France: Paris, Aug. 1-8, 1 death.
Great Britain: London, Aug. 8-15, 9 cases; Manchester, Aug. 8-15, 1 case; Newcastle-on-Tyne, Aug. 8-15, 10 cases, 1 death; South Shields, Aug. 8-15, 1 case; West Hartlepool, Aug. 8-15, 2 cases.
India: Bombay, July 28-Aug. 4, 5 deaths.
Mexico: City of Mexico, Aug. 16-23, 9 cases, 5 deaths.
Russia: Moscow, Aug. 1-8, 2 cases, 1 death; Odessa, Aug. 8-15, 1 case.

YELLOW FEVER—UNITED STATES.

Mississippi: Gulf Quarantine, Sept. 1, 1 death, from schooner Henrietta G. Powell from Vera Cruz.

YELLOW FEVER—FOREIGN.

Colombia: Panama, Aug. 17-24, 3 cases, 1 death.
Costa Rica: Limon, Aug. 13-30, 4 cases, 2 deaths; San Jose, Aug. 13-30, 2 cases; Zent, Aug. 13-30, 4 deaths.
Mexico: City of Mexico, Aug. 16-23, 1 death; Linares, Aug. 24, 14 deaths; Merida, Aug. 9-15, 10 cases, 5 deaths; Progreso, Aug. 15-22, 2 cases; Monterey, Aug. 26, 1 case; Tampico, Aug. 16-22, 19 deaths; Tehauntepec, Aug. 9-15, 4 cases, 3 deaths; Toran, Aug. 27, present; Salina Cruz, Aug. 9-15, 3 cases, 2 deaths; Valladolia, Aug. 9-15, 1 case; Vera Cruz, Aug. 8-22, 112 cases, 44 deaths.

CHOLERA—INSULAR.

Phillippine Islands: Manila, July 11-18, 7 cases, 7 deaths; Provinces, July 11-18, 1,369 cases, 825 deaths.

CHOLERA—FOREIGN.

China: Hongkong, July 15-22, 1 death.
India: Calcutta, July 25-Aug. 1, 12 deaths.
Turkey: Damascus, July 21-Aug. 18, 57 deaths; Damascus Province, July 21-Aug. 18, 312 deaths; Tripoli, July 25, present.

PLAGUE—INSULAR.

Hawaii: Honolulu, Aug. 18, 1 death.
Philippine Islands: Manila, July 11-18, 1 case.

PLAGUE—FOREIGN.

China: Hongkong, July 15-22, 18 cases, 9 deaths.
India: Bombay, July 28-Aug. 4, 100 deaths; Calcutta, July 25-Aug. 1, 12 cases; Karachi, July 26-Aug. 2, 2 cases, 2 deaths.